

Course: SWE324 – Distributing Computing

Instructor	Rabeea Jaffari	Practical/Lab No.	08
Date	02 April 2019	CLOs	CLO-4: P3 & P4
Signature		Assessment Score	1 Marks

Topic To become Familiar with OLTP System Design

Objectives - To learn XML schema and parsing an XML document.

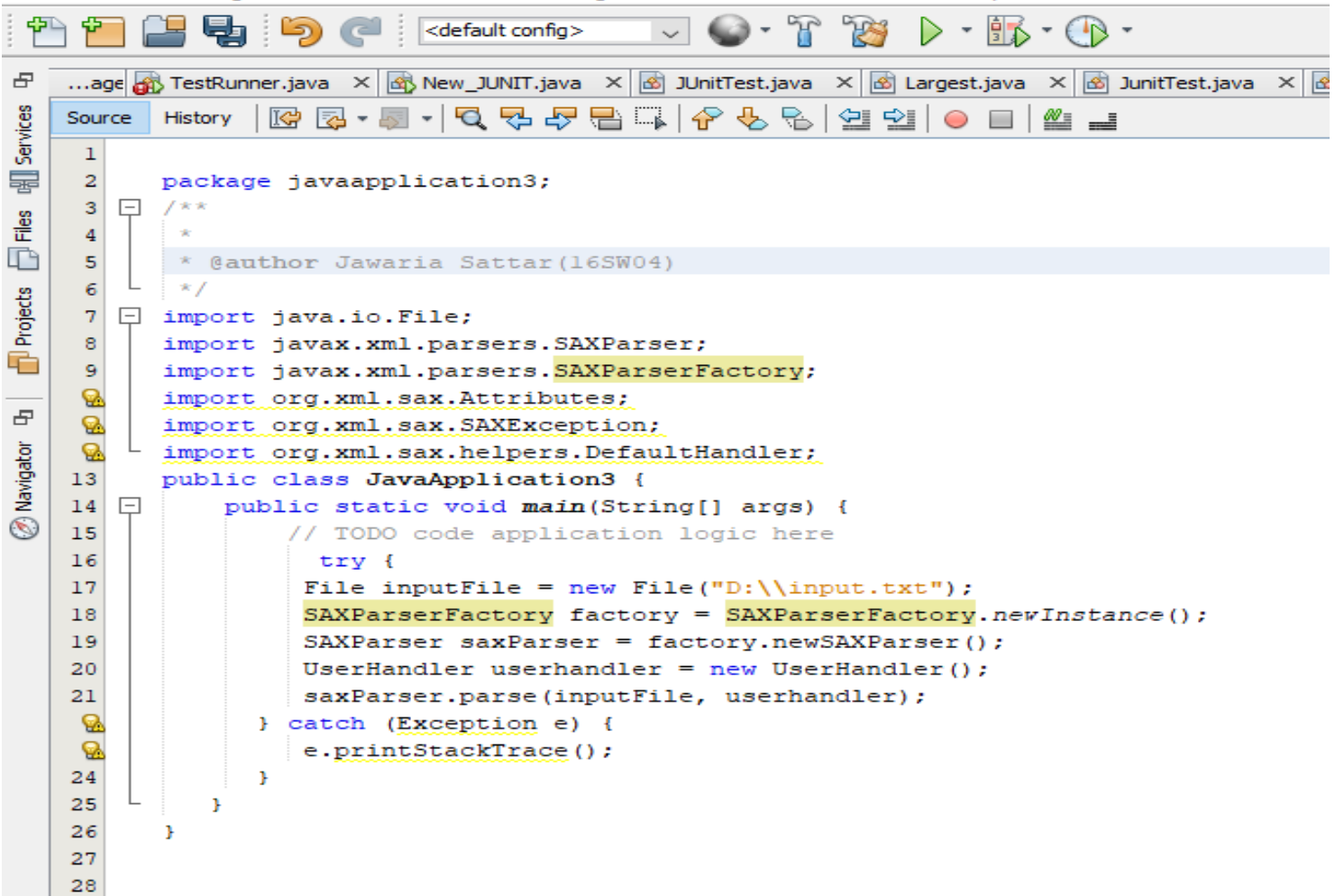
Lab Tasks

Submitted by: 16SW04

1. Write an XML instance for following schema and then parse that document in Java using either DOM or SAX API.

JavaApplication3 - NetBeans IDE 8.1 RC

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```
1 package javaapplication3;
2
3 /**
4  *
5  * @author Jawaria Sattar(16SW04)
6  */
7 import java.io.File;
8 import javax.xml.parsers.SAXParser;
9 import javax.xml.parsers.SAXParserFactory;
10 import org.xml.sax.Attributes;
11 import org.xml.sax.SAXException;
12 import org.xml.sax.helpers.DefaultHandler;
13 public class JavaApplication3 {
14     public static void main(String[] args) {
15         // TODO code application logic here
16         try {
17             File inputFile = new File("D:\\input.txt");
18             SAXParserFactory factory = SAXParserFactory.newInstance();
19             SAXParser saxParser = factory.newSAXParser();
20             UserHandler userhandler = new UserHandler();
21             saxParser.parse(inputFile, userhandler);
22         } catch (Exception e) {
23             e.printStackTrace();
24         }
25     }
26 }
27
28
```

```

1 package javaapplication3;
2 import org.xml.sax.Attributes;
3 import org.xml.sax.SAXException;
4 import org.xml.sax.helpers.DefaultHandler;
5 public class UserHandler extends DefaultHandler {
6     boolean firstname = false; boolean lastname = false; boolean rollno = false; boolean day = false; boolean month = false; boolean year = false;
7     public void startElement(String uri, String localName, String qName,
8         Attributes attributes) throws SAXException {
9         if (qName.equalsIgnoreCase("person")) {
10             System.out.println("Start Element : " + qName);
11             if (qName.equalsIgnoreCase("dob")) {
12                 System.out.println("Start Element : " + qName);
13                 if (qName.equalsIgnoreCase("firstname")) {
14                     firstname = true;
15                 }
16                 if (qName.equalsIgnoreCase("lastname")) {
17                     lastname = true;
18                 }
19                 if (qName.equalsIgnoreCase("rollno")) {
20                     rollno = true;
21                 }
22                 if (qName.equalsIgnoreCase("day")) {
23                     day = true;
24                 }
25                 if (qName.equalsIgnoreCase("month")) {
26                     month = true;
27                 }
28                 if (qName.equalsIgnoreCase("year")) {
29                     year = true;
30                 }
31             }
32         }
33     }
34     public void endElement(String uri, String localName,
35         String qName) throws SAXException {
36         if (qName.equalsIgnoreCase("person")) {
37             System.out.println("End Element : " + qName);
38         }
39     }
40 }

```

```

31         if (qName.equalsIgnoreCase("dob")) {
32             System.out.println("End Element : " + qName);
33         }
34     }
35 }
36
37 public void characters(char ch[], int start, int length) throws SAXException {
38     if (firstname) {
39         System.out.println("First Name : " + new String(ch, start, length));
40         firstname = false;
41     }
42     if (lastname) {
43         System.out.println("Last Name : " + new String(ch, start, length));
44         lastname = false;
45     }
46     if (rollno) {
47         System.out.println("Roll no : " + new String(ch, start, length));
48         rollno = false;
49     }
50     if (day) {
51         System.out.println("Day : " + new String(ch, start, length));
52         day = false;
53     }
54     if (month) {
55         System.out.println("Month : " + new String(ch, start, length));
56         month = false;
57     }
58     if (year) {
59         System.out.println("Year : " + new String(ch, start, length));
60         year = false;
61     }
62 }
63 }
64 }
65 }
66 }
67 }
68 }
69 }
70 }
71 }
72 }
73 }
74 }
75 }
76 }
77 }
78 }
79 }
80 }
81 }
82 }
83 }
84 }
85 }
86 }
87 }
88 }
89 }
90 }
91 }
92 }
93 }
94 }
95 }
96 }
97 }
98 }
99 }
100 }

```

```
Output - JavaApplication3 (run)

run:
Start Element :person
First Name : Jawaria
Last Name : Sattar
Roll no : 16SW04
Start Element :dob
Day : 09
Month : November
Year : 1998
End Element :dob
End Element :person
BUILD SUCCESSFUL (total time: 0 seconds)
```

input - Notepad

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```
<person>
<firstname>Jawaria</firstname>
<Lastname>Sattar</Lastname>
<Rollno>16SW04</Rollno>
<dob>
<day>09</day>
<month>November</month>
<year>1998</year>
</dob>
</person>
```