

APACHE XERCES SAX PARSER - QUERY XML DOCUMENT

http://www.tutorialspoint.com/xerces/xerces_sax_query_document.htm

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Demo Example

Here is the input text file we need to Query for rollno: 393

```
<?xml version="1.0"?>
<class>
  <student rollno="393">
    <firstname>Dinkar</firstname>
    <lastname>Kad</lastname>
    <nickname>Dinkar</nickname>
    <marks>85</marks>
  </student>
  <student rollno="493">
    <firstname>Vineet</firstname>
    <lastname>Gupta</lastname>
    <nickname>Vinni</nickname>
    <marks>95</marks>
  </student>
  <student rollno="593">
    <firstname>Jasvir</firstname>
    <lastname>Singh</lastname>
    <nickname>Jazz</nickname>
    <marks>90</marks>
  </student>
</class>
```

UserHandler.java

```
package com.tutorialspoint.xml;

import org.xml.sax.Attributes;
import org.xml.sax.SAXException;
import org.xml.sax.helpers.DefaultHandler;

public class UserHandler extends DefaultHandler {

    boolean bFirstName = false;
    boolean bLastName = false;
    boolean bNickName = false;
    boolean bMarks = false;
    String rollNo = null;

    @Override
    public void startElement(String uri,
        String localName, String qName, Attributes attributes)
        throws SAXException {

        if (qName.equalsIgnoreCase("student")) {
            rollNo = attributes.getValue("rollno");
        }
        if(("393").equals(rollNo) &&
            qName.equalsIgnoreCase("student")){
            System.out.println("Start Element :" + qName);
        }
        if (qName.equalsIgnoreCase("firstname")) {
            bFirstName = true;
        } else if (qName.equalsIgnoreCase("lastname")) {
            bLastName = true;
        } else if (qName.equalsIgnoreCase("nickname")) {
            bNickName = true;
        }
    }
}
```

```

        else if (qName.equalsIgnoreCase("marks")) {
            bMarks = true;
        }
    }

    @Override
    public void endElement(String uri,
        String localName, String qName) throws SAXException {
        if (qName.equalsIgnoreCase("student")) {
            if(("393").equals(rollNo)
                && qName.equalsIgnoreCase("student"))
                System.out.println("End Element :" + qName);
        }
    }

    @Override
    public void characters(char ch[],
        int start, int length) throws SAXException {

        if (bFirstName && ("393").equals(rollNo)) {
            //age element, set Employee age
            System.out.println("First Name: " +
                new String(ch, start, length));
            bFirstName = false;
        } else if (bLastName && ("393").equals(rollNo)) {
            System.out.println("Last Name: " +
                new String(ch, start, length));
            bLastName = false;
        } else if (bNickName && ("393").equals(rollNo)) {
            System.out.println("Nick Name: " +
                new String(ch, start, length));
            bNickName = false;
        } else if (bMarks && ("393").equals(rollNo)) {
            System.out.println("Marks: " +
                new String(ch, start, length));
            bMarks = false;
        }
    }
}

```

SAXQueryDemo.java

```

package com.tutorialspoint.xml;

import java.io.File;
import javax.xml.parsers.SAXParser;
import javax.xml.parsers.SAXParserFactory;

import org.xml.sax.Attributes;
import org.xml.sax.SAXException;
import org.xml.sax.helpers.DefaultHandler;

public class SAXQueryDemo {
    public static void main(String[] args){

        try {
            File inputFile = new File("input.txt");
            SAXParserFactory factory = SAXParserFactory.newInstance();
            SAXParser saxParser = factory.newSAXParser();
            UserHandler userhandler = new UserHandler();
            saxParser.parse(inputFile, userhandler);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
}

class UserHandler extends DefaultHandler {

```

```

boolean bFirstName = false;
boolean bLastName = false;
boolean bNickName = false;
boolean bMarks = false;
String rollNo = null;

@Override
public void startElement(String uri,
    String localName, String qName, Attributes attributes)
    throws SAXException {

    if (qName.equalsIgnoreCase("student")) {
        rollNo = attributes.getValue("rollno");
    }
    if(("393").equals(rollNo) &&
        qName.equalsIgnoreCase("student")){
        System.out.println("Start Element :" + qName);
    }
    if (qName.equalsIgnoreCase("firstname")) {
        bFirstName = true;
    } else if (qName.equalsIgnoreCase("lastname")) {
        bLastName = true;
    } else if (qName.equalsIgnoreCase("nickname")) {
        bNickName = true;
    }
    else if (qName.equalsIgnoreCase("marks")) {
        bMarks = true;
    }
}

@Override
public void endElement(String uri,
    String localName, String qName) throws SAXException {
    if (qName.equalsIgnoreCase("student")) {
        if(("393").equals(rollNo)
            && qName.equalsIgnoreCase("student"))
            System.out.println("End Element :" + qName);
    }
}

@Override
public void characters(char ch[],
    int start, int length) throws SAXException {

    if (bFirstName && ("393").equals(rollNo)) {
        //age element, set Employee age
        System.out.println("First Name: " +
            new String(ch, start, length));
        bFirstName = false;
    } else if (bLastName && ("393").equals(rollNo)) {
        System.out.println("Last Name: " +
            new String(ch, start, length));
        bLastName = false;
    } else if (bNickName && ("393").equals(rollNo)) {
        System.out.println("Nick Name: " +
            new String(ch, start, length));
        bNickName = false;
    } else if (bMarks && ("393").equals(rollNo)) {
        System.out.println("Marks: " +
            new String(ch, start, length));
        bMarks = false;
    }
}
}

```

This would produce the following result:

Start Element :student
First Name: Dinkar
Last Name: Kad
Nick Name: Dinkar
Marks: 85
End Element :student