**Parsing XML and JSON files using an Android application built using Android Studio**

**XML PROGRAM:**

<?xml version="1.0" encoding="utf-8"?>  
<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:background="#FBFAFA"  
 tools:context=".MainActivity">  
  
 <Button  
 android:id="@+id/btnjson"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginBottom="68dp"  
 android:backgroundTint="@color/white"  
 android:text="Parse JSON Data"  
 android:textColor="#e63737"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toStartOf="@+id/btnxml"  
 app:layout\_constraintHorizontal\_bias="0.465"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/tableLayout"  
 app:layout\_constraintVertical\_bias="0.276" />  
  
 <Button  
 android:id="@+id/btnxml"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginEnd="20dp"  
 android:layout\_marginRight="20dp"  
 android:layout\_marginBottom="68dp"  
 android:backgroundTint="@color/white"  
 android:text="Parse XML Data"  
 android:textColor="#4265ed"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/tableLayout"  
 app:layout\_constraintVertical\_bias="0.276" />  
  
 <TableLayout  
 android:id="@+id/tableLayout"  
 android:layout\_width="411dp"  
 android:layout\_height="377dp"  
 android:layout\_marginTop="28dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.5"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.0">  
  
 <TableRow  
 android:id="@+id/row1"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:padding="20dp">  
  
 <TextView  
 android:id="@+id/xtable"  
 android:layout\_width="wrap\_content"  
  
 android:layout\_height="wrap\_content"  
 android:layout\_gravity="center\_horizontal"  
 android:layout\_weight="1"  
 android:text="XML Data"  
 android:textAlignment="center"  
 android:textStyle="bold" />  
  
 <TextView  
 android:id="@+id/jtable"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_gravity="center\_horizontal"  
 android:layout\_weight="1"  
 android:text="JSON Data"  
 android:textAlignment="center"  
 android:textStyle="bold" />  
 </TableRow>  
  
 <TableRow  
 android:id="@+id/row2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:padding="20dp">  
  
 <TextView  
 android:id="@+id/xname"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1" />  
  
 <TextView  
 android:id="@+id/jname"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1" />  
 </TableRow>  
  
 <TableRow  
 android:id="@+id/row3"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:padding="20dp">  
  
 <TextView  
 android:id="@+id/xlat"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1" />  
  
 <TextView  
 android:id="@+id/jlat"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1" />  
 </TableRow>  
  
 <TableRow  
 android:id="@+id/row4"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:padding="20dp">  
  
 <TextView  
 android:id="@+id/xlong"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1" />  
  
 <TextView  
 android:id="@+id/jlong"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1" />  
 </TableRow>  
  
 <TableRow  
 android:id="@+id/row5"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:padding="20dp">  
  
 <TextView  
 android:id="@+id/xtemp"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1" />  
  
 <TextView  
 android:id="@+id/jtemp"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1" />  
 </TableRow>  
  
 <TableRow  
 android:id="@+id/row6"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:padding="20dp">  
  
 <TextView  
 android:id="@+id/xhumid"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1" />  
  
 <TextView  
 android:id="@+id/jhumid"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1" />  
 </TableRow>  
 </TableLayout>  
</androidx.constraintlayout.widget.ConstraintLayout>

**JAVA PROGRAM:**

package com.example.parsingxmlandjson;  
  
import androidx.appcompat.app.AppCompatActivity;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.TextView;  
  
import com.example.parsingxmlandjson.R;  
  
import org.json.JSONObject;  
import org.w3c.dom.Document;  
import org.w3c.dom.Element;  
import org.w3c.dom.NodeList;  
import java.io.InputStream;  
import javax.xml.parsers.DocumentBuilder;  
import javax.xml.parsers.DocumentBuilderFactory;  
public class MainActivity extends AppCompatActivity {  
 Button bx,bj;  
 TextView tx,tj;  
 String KEY\_NAME = "name";  
 String KEY\_LATITUDE = "latitude";  
 String KEY\_LONGITUDE = "longitude";  
 String KEY\_TEMPERATURE = "temperature";  
 String KEY\_HUMIDITY = "humidity";  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 tx=findViewById(R.id.*xtable*);  
 tj=findViewById(R.id.*jtable*);  
 tx.setVisibility(View.*GONE*);  
 tj.setVisibility(View.*GONE*);  
 bx=findViewById(R.id.*btnxml*);  
 bj=findViewById(R.id.*btnjson*);  
 bx.setOnClickListener(this::parseXml);  
 bj.setOnClickListener(this::parseJson);  
 }  
 private void parseXml(View v){  
 tx.setVisibility(View.*VISIBLE*);  
 bx.setVisibility(View.*GONE*);  
 try{  
 InputStream stream = getAssets().open("city1.xml");  
 DocumentBuilderFactory factory = DocumentBuilderFactory.*newInstance*();  
 DocumentBuilder db = factory.newDocumentBuilder();  
 Document dom = db.parse(stream);  
 NodeList city = dom.getElementsByTagName("city");  
 String name = "";  
 String latitude = "";  
 String longitude = "";  
 String humidity = "";  
 String temperature = "";  
  
 for(int i=0; i<city.getLength(); i++){  
  
 Element e = (Element) city.item(i);  
 if(name.equals("")){  
 name = this.getValue(e,KEY\_NAME);  
 } if(latitude.equals("")){  
 latitude = this.getValue(e,KEY\_LATITUDE);  
 } if(longitude.equals("")){  
 longitude = this.getValue(e,KEY\_LONGITUDE);  
 } if(humidity.equals("")){  
 humidity = this.getValue(e,KEY\_HUMIDITY);  
 } if(temperature.equals("")){  
 temperature = this.getValue(e, KEY\_TEMPERATURE );  
 }  
 }  
 ((TextView)findViewById(R.id.*xname*)).setText("Name: "+name);  
 ((TextView)findViewById(R.id.*xlat*)).setText("Latitude: "+latitude);  
 ((TextView)findViewById(R.id.*xlong*)).setText("Longitude:"+longitude);  
 ((TextView)findViewById(R.id.*xhumid*)).setText("Humidity: "+humidity);  
 ((TextView)findViewById(R.id.*xtemp*)).setText("Temperature:"+temperature);  
 }  
 catch(Exception e){  
 System.*out*.println("Something Went Wrong:"+ e.getMessage());  
 e.printStackTrace();  
 } }  
 private String getValue(Element item, String str) {  
 NodeList n = item.getElementsByTagName(str);  
 return n.item(0).getFirstChild().getNodeValue();  
 }  
 private void parseJson(View v){  
 tj.setVisibility(View.*VISIBLE*);  
 bj.setVisibility(View.*GONE*);  
 JSONObject city;  
 try{  
 InputStream is = getAssets().open("city.json");  
 int size = is.available();  
 byte[] buffer = new byte[size];  
 is.read(buffer);  
 is.close();  
 city = new JSONObject(new String(buffer, "UTF-8"));  
 ((TextView)findViewById(R.id.*jname*)).setText("Name: "+city.getString("name"));  
 ((TextView)findViewById(R.id.*jlat*)).setText("Latitude: "+city.getString("latitude"));  
 ((TextView)findViewById(R.id.*jlong*)).setText("Longitude: "+city.getString("longitude"));  
 ((TextView)findViewById(R.id.*jtemp*)).setText("Temperature: "+city.getString("temperature"));  
 ((TextView)findViewById(R.id.*jhumid*)).setText("Humidity: "+city.getString("humidity"));  
 }  
 catch(Exception ex){ ex.printStackTrace();  
 }  
 }  
}

**CITY.XML FILE:**

<?xml version="1.0" encoding="utf-8"?>

<city>

<name>Bangalore</name>

<latitude>12.9716</latitude>

<longitude>77.5946</longitude>

<temperature>31</temperature> <humidity>62</humidity>

</city>

**CITY.JSON FILE:**

{

"name": "New York",

"latitude": "40.7128",

"longitude": "74.0060",

"temperature": "10",

"humidity": "43"

}