Bahria University,

Karachi Campus



LAB EXPERIMENT NO.

**08**

LIST OF TASKS

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| --- | --- |
| TASK NO | OBJECTIVE |
| **01** | **You are working on a project where you get data from third party**  **webapi/service in XML format. You are creating charts from that data for creating a chart you need data in JSON format in order to make them compatiable you need to convert xml data into json but limitation is you can’t modify third party webservice/api you have**  **to make Adapter that returns data in JSON by using adapter pattern.** |
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Submitted On:

**12 – 05 -2023**

(Date: DD/MM/YY)

**Task No. 1:** You are working on a project where you get data from third party

webapi/service in XML format. You are creating charts from that data for creating a chart you need data in JSON format in order to make them compatiable you need to convert xml data into json but limitation is you can’t modify third party webservice/api you have

to make Adapter that returns data in JSON by using adapter pattern.

**Solution:**

**Class XmlData**

// The XML data format returned by the third-party web API/service

public class XmlData

{

public int Id { get; set; }

public string Name { get; set; }

public string Url { get; set; }

}

**Class JsonData**

// The JSON data format expected by the charting library

public class JsonData

{

public int Id { get; set; }

public string Name { get; set; }

public string Url { get; set; }

}

**Class XmlToJsonAdapter**

// The adapter that converts XML data to JSON data

public class XmlToJsonAdapter

{

private XmlData \_xmlData;

public XmlToJsonAdapter(XmlData xmlData)

{

\_xmlData = xmlData;

}

public JsonData GetJsonData()

{

// Convert the XML data to JSON data

JsonData jsonData = new JsonData

{

Id = \_xmlData.Id,

Name = \_xmlData.Name,

Url = \_xmlData.Url

};

return jsonData;

}

}

**Class PrintXmlToJson**

class PrintXmlToJson

{

public static void PrintJSON(string xmlString)

{

XmlDocument xmlDoc = new XmlDocument();

xmlDoc.LoadXml(xmlString);

XmlData xmlData = new XmlData();

foreach (XmlNode node in xmlDoc.DocumentElement.ChildNodes)

{

xmlData.Id = int.Parse(node.Attributes["id"].Value);

xmlData.Name = node.SelectSingleNode("name").InnerText;

xmlData.Url = node.SelectSingleNode("url").InnerText;

XmlToJsonAdapter adapter = new XmlToJsonAdapter(xmlData); // Create an adapter that converts XML data to JSON data

JsonData jsonData = adapter.GetJsonData(); // Get the JSON data from the adapter

string jsonString = JsonConvert.SerializeObject(jsonData); // Serialize the JSON data to a string

Console.WriteLine(jsonString);

}

}

}

**Main Method**

static void Main(string[] args)

{

PrintXmlToJson.PrintJSON(@"<?xml version='1.0' standalone='no'?>

<root>

<person id='1'>

<name>muhammad sabir</name>

<url>https://github.com/sabir</url>

</person>

<person id='2'>

<name> muhammad sabir </name>

<url>https://www.linkedin.com/in/ muhammad/</url>

</person>

</root>");

}

**Output:**

MUHAMMAD SABIR



MUHAMMAD

MUHAMMAD

MUHAMMAD SABIR