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19BCE2105

Q2. Develop the Java Restful web service to remove duplicate elements from the given array (Strings and Numbers). Consume the same service by using Java Restful client.

Reg-No	DA1 Question No
19BCE2105	Q2

Solution:

Source code:

demo/pom.xml

```
<project xmlns="http://maven.apache.org/POM/4.0.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/maven-
v4_0_0.xsd">
  <modelVersion>4.0.0</modelVersion>
  <groupId>com.yolo</groupId>
  <artifactId>demo</artifactId>
  <packaging>war</packaging>
  <version>0.0.1-SNAPSHOT</version>
  <name>demo Jersey Webapp</name>
  <build>
    <finalName>demo</finalName>
    <plugins>
      <plugin>
        <groupId>org.apache.maven.plugins</groupId>
        <artifactId>maven-compiler-plugin</artifactId>
        <version>3.8.1</version>
        <inherited>true</inherited>
        <configuration>
          <source>1.8</source>
          <target>1.8</target>
        </configuration>
      </plugin>
      <plugin>
        <artifactId>maven-war-plugin</artifactId>
        <version>3.3.1</version>
      </plugin>
      <!-- Run the application using "mvn embedded-glassfish:run" -->
      <plugin>
        <groupId>org.glassfish</groupId>
        <artifactId>maven-embedded-glassfish-plugin</artifactId>
        <version>${glassfish.version}</version>
        <configuration>
          <goalPrefix>embedded-glassfish</goalPrefix>
          <app>C:/Users/shara/eclipse-
workspace/target/${project.build.finalName}.war</app>
          <autoDelete>true</autoDelete>
        </configuration>
      </plugin>
    </plugins>
  </build>
</project>
```

```
        <port>8080</port>
    </configuration>

    <dependencies>

        <dependency>
            <groupId>javax.xml.bind</groupId>
            <artifactId>jaxb-api</artifactId>
            <version>2.3.1</version>
        </dependency>

        <dependency>
            <groupId>org.glassfish.jaxb</groupId>
            <artifactId>jaxb-runtime</artifactId>
            <version>2.3.2</version>
        </dependency>

        <dependency>
            <groupId>org.glassfish.jersey</groupId>
            <artifactId>jersey-bom</artifactId>
            <version>${jersey.version}</version>
            <type>pom</type>
            <scope>compile</scope>
        </dependency>

        <dependency>

            <groupId>org.glassfish.jersey.media</groupId>
            <artifactId>jersey-media-json-jackson</artifactId>
            <version>2.25</version>
        </dependency>

        <dependency>
            <groupId>com.fasterxml.jackson.core</groupId>
            <artifactId>jackson-databind</artifactId>
            <version>2.9.2</version>
        </dependency>

        <dependency>
            <groupId>org.codehaus.jackson</groupId>
            <artifactId>jackson-mapper-asl</artifactId>
            <version>1.9.0</version>
        </dependency>
    </dependencies>

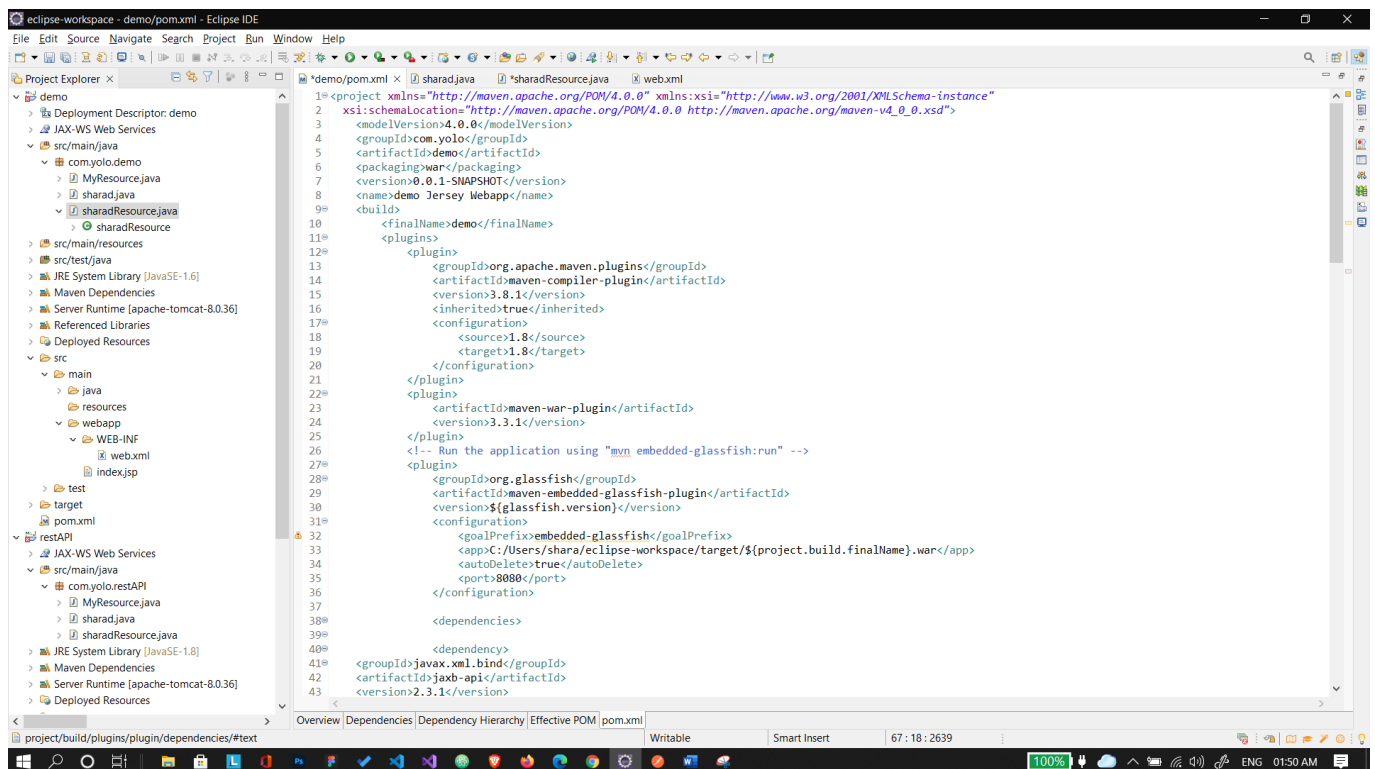
    <dependency>
        <groupId>com.sun.jersey</groupId>
        <artifactId>jersey-json</artifactId>
        <version>1.18.1</version>
    </dependency>

    <dependency>
        <groupId>com.sun.jersey</groupId>
        <artifactId>jersey-json</artifactId>
        <version>1.18.1</version>
    </dependency>
    <dependency>
        <groupId>com.owllike</groupId>
        <artifactId>genson</artifactId>
        <version>0.99</version>
    </dependency>
    <dependency>
        <groupId>javax.xml.bind</groupId>
```

```

    <artifactId>jaxb-api</artifactId>
    <version>2.3.1</version>
</dependency>
    <dependency>
<groupId>org.glassfish.jaxb</groupId>
<artifactId>jaxb-runtime</artifactId>
<version>2.3.2</version>
</dependency>
        <dependency>
            <groupId>com.sun.jersey</groupId>
            <artifactId>jersey-servlet</artifactId>
            <version>${project.version}</version>
        </dependency>
        <dependency>
            <groupId>javax.servlet</groupId>
            <artifactId>javax.servlet-api</artifactId>
            <version>3.0.1</version>
        </dependency>
    </dependencies>
</plugin>
</plugins>
</build>
<dependencies>
    <dependency>
        <groupId>com.sun.jersey</groupId>
        <artifactId>jersey-servlet</artifactId>
        <version>${jersey.version}</version>
    </dependency>
    <dependency>
        <groupId>com.sun.jersey</groupId>
        <artifactId>jersey-json</artifactId>
        <version>${jersey.version}</version>
    </dependency>
    <dependency>
        <groupId>junit</groupId>
        <artifactId>junit</artifactId>
        <version>4.8.2</version>
        <scope>test</scope>
    </dependency>
    <dependency>
        <groupId>com.sun.jersey</groupId>
        <artifactId>jersey-client</artifactId>
        <version>${jersey.version}</version>
        <scope>test</scope>
    </dependency>
    <dependency>
        <groupId>org.glassfish.extras</groupId>
        <artifactId>glassfish-embedded-web</artifactId>
        <version>${glassfish.version}</version>
        <scope>test</scope>
    </dependency>
</dependencies>
<properties>
    <jersey.version>1.19.1</jersey.version>
    <glassfish.version>3.1.1</glassfish.version>
    <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
</properties>
</project>

```



sharad.java

```
package com.yolo.demo;
```

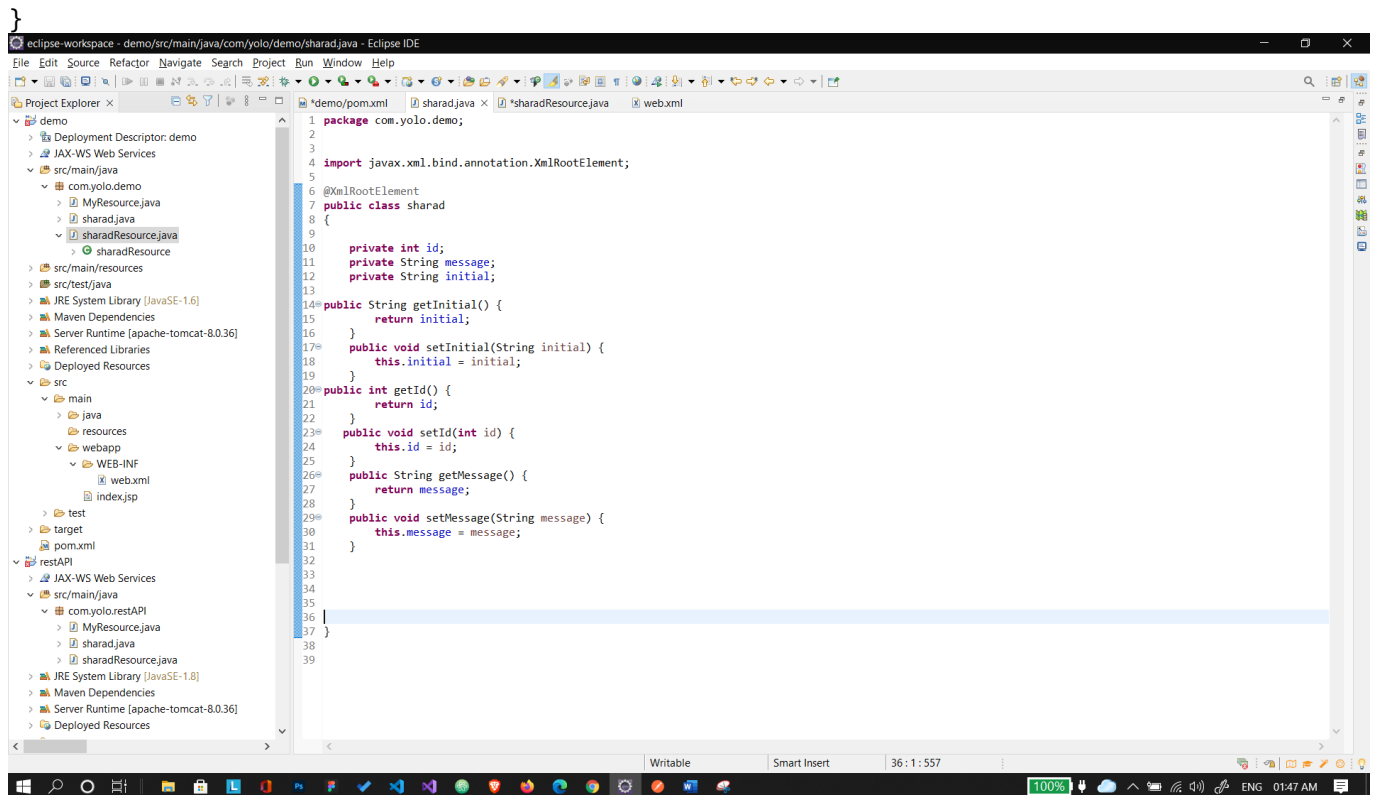
```
import javax.xml.bind.annotation.XmlRootElement;
```

```
@XmlRootElement
```

```
public class sharad
{
```

```
    private int id;
    private String message;
    private String initial;
```

```
    public String getInitial() {
        return initial;
    }
    public void setInitial(String initial) {
        this.initial = initial;
    }
    public int getId() {
        return id;
    }
    public void setId(int id) {
        this.id = id;
    }
    public String getMessage() {
        return message;
    }
    public void setMessage(String message) {
        this.message = message;
    }
}
```



sharadResource.java

```
package com.yolo.demo;
```

```
import javax.ws.rs.GET;
import javax.ws.rs.Path;
import javax.ws.rs.Produces;
import javax.ws.rs.core.MediaType;
```

```
import java.util.ArrayList;
import java.util.Arrays;
```

```
@Path("/sharad")
```

```
public class sharadResource
{
```

```
    private String[] str =
{"tokyo", "helsinki", "nyc", "beijin", "kolkata", "paris", "helsinki", "nyc"};
    private int[] ar = {4,5,6,5,4,3,8,9,2,1};
```

```
    public static int[] removeduplicateInteger(int[] arr) {
        if (arr == null || arr.length == 0)
            return arr;
        Arrays.sort(arr);
        int n = 1;
        for (int i = 1; i < arr.length; i++) {
            if (arr[i] != arr[i-1]) n++;
        }
        int[] res = new int[n];
        res[0] = arr[0];
        n = 1;
```

```

        for (int i = 1; i < arr.length; i++) {
            if (arr[i] != arr[i-1]) res[n++] = arr[i];
        }
        return res;
    }

    public static String removeduplicateString(String str[])
    {
        ArrayList<String> aListColors = new ArrayList<String>();

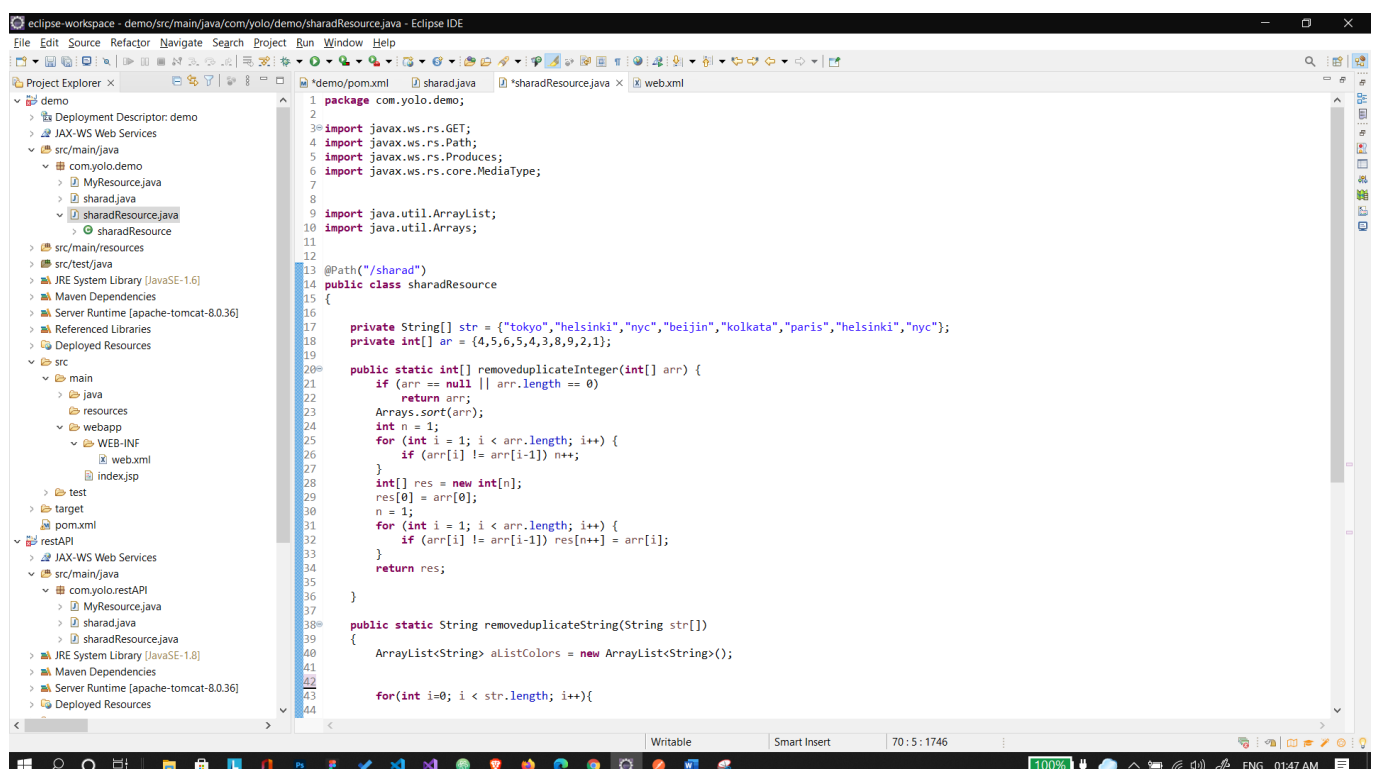
        for(int i=0; i < str.length; i++){

            if( !aListColors.contains(str[i]) ){
                aListColors.add(str[i]);
            }
        }

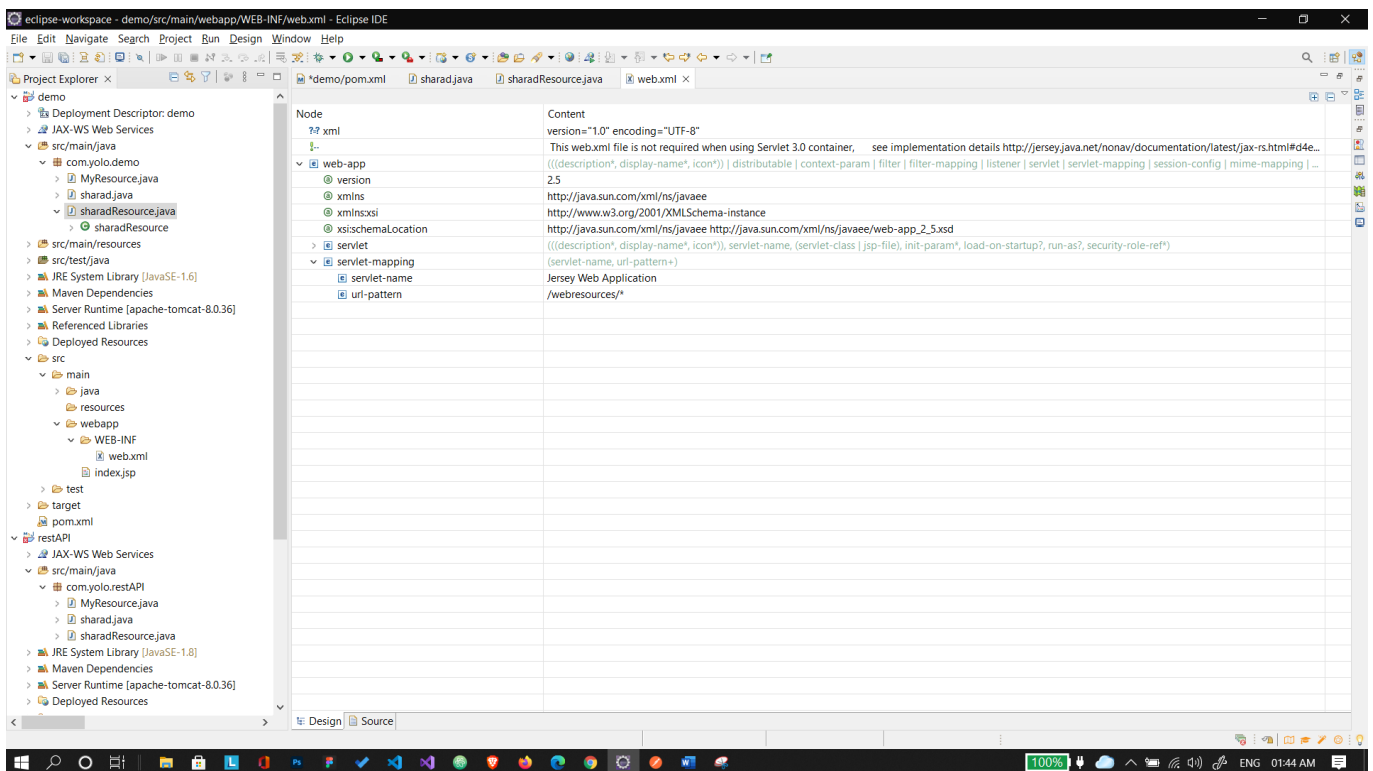
        str = aListColors.toArray( new String[aListColors.size()] );
        return Arrays.toString(str);
    }
    String r1=removeduplicateString(str);
    String r2= Arrays.toString(removeduplicateInteger(ar));
    @GET
    @Produces(MediaType.APPLICATION_XML)
    public sharad getsharad()
    {
        sharad s1=new sharad();
        s1.setId(1);
        s1.setInitial("The arrays before removal of duplicates are:"+" "+
Arrays.toString(str) +" , " +Arrays.toString(ar));
        s1.setMessage("The arrays after removal of duplicates are:"+" "+ r1 +" , "
+r2);

        return s1;
    }
}

```



web.xml



localhost after running



Jersey RESTful Web Application!

[Jersey resource](#)

Visit the [Project Jersey website](#) for more information on Jersey!



GET REQUEST FOR RESTFUL JAVA WEBSERVICE IN XML FORMAT

The screenshot displays the Postman application interface. On the left sidebar, the 'My Workspace' section is active, showing a 'New Collection' and a 'GET New Request'. The main panel shows a 'New Request' for a GET method to the URL 'http://localhost:8080/demo/webresources/sharad'. The 'Query Params' section is empty. The 'Body' tab is selected, showing the XML response in 'Pretty' format. The response status is '200 OK' with a time of '69 ms' and a size of '511 B'. The XML content is as follows:

```
1 <?xml version="1.0" encoding="UTF-8" standalone="yes"?>
2 <sharad>
3   <id>1</id>
4   <initial>The arrays before removal of duplicates are: [tokyo, helsinki, nyc, beijin, kolkata, paris, helsinki, nyc] , [1, 2, 3, 4, 4, 5,
5     5, 6, 8, 9]</initial>
6   <message>The arrays after removal of duplicates are: [tokyo, helsinki, nyc, beijin, kolkata, paris] , [1, 2, 3, 4, 5, 6, 8, 9]</message>
7 </sharad>
```

The bottom of the image shows a Windows taskbar with various application icons and a system clock indicating 01:53 AM on 01/13/2020.