Example to Store file in Oracle Database:-

PreparedStatement class has setCharacterStream() method used to set character information into the parameter index.

Syntax:-

① public void setBinaryStream(int paramindex, InputStream obj) throws SQLException

② public void setBinaryStream(int paramindex, InputStream obj, long length) throws SQLExcept

For storing file into the table of database, CLOB (Character Large Object) data-type is required in the table.

Let us now create a table as:-

```
SQL> create table filetable
     ( fileid number,
       filedata CLOB
     );
```

Program:- FileStore.java

```
import java.io.*;
import java.sql.*;
public class FileStore{
public static void main(String []args) throws Exception
{
  Class.forName("oracle.jdbc.driver.OracleDriver");
  Connection con = DriverManager.getConnection("jdbc:
  oracle:thin:@localhost:1521:xe", "system", "rranjan");
PreparedStatement ps = con.prepareStatement("insert into
                       filetable values(?,?)");
```

```
File f = new File("E:\\Java\\Test.java");
FileReader fr = new FileReader(f);
ps.setInt(1, 1001);
ps.setCharacterStream(2, fr, (int)f.length());
int i = ps.executeUpdate();
System.out.println(i + " records affected");
con.close();
}
}
```

Compile:- Make sure ojdbc6_b.jar or ojdbc6.jar should be in your current working directory

```
javac -cp ".;ojdbc6.jar;ojdbc6_b.jar" FileStore.java
```

Reading file from database Program Now:—

getClob() method is defined in PreparedStatement class— which is responsible to get file information from the database which is stored earlier. Program— RetrieveData.java

```
import java.io.*;
import java.sql.*;
public class RetrieveData {
  public static void main(String []args) {
Class.forName("oracle.jdbc.driver.OracleDriver");
Connection con = DriverManager.getConnection("jdbc:oracle:thin:
@localhost:1521:xe", "system", "ranjan");
PreparedStatement ps = con.prepareStatement("select * from
filetable");
    ResultSet rs = ps.executeQuery();
    rs.next();
   Clob c = rs.getClob(2);
    Reader r = c.getCharacterStream();
```

```
FileWriter fw = new FileWriter("E:\\Java\\rtdata.txt");
int i;
  while ( (i = r.read() != -1)
   fw.write ((char) i);
fw.close ();
con.close ();
System.out.println("Data Retrieved into file rtdata.txt");
}
}
```

JSE (J2SE) – Core Java, JDBC
Advance Java – JEE (J2EE) – Servlet, JSP
JME – Micro Devices (J2ME)

Now, we start learning all about – Servlets:

It is a web-application development component, popular due to java technology.

Servlet technology is robust and scalable because of java language. Before Servlets, CGI was used earlier for server-side-scripting (programming for server). CGI stands for Common Gateway Interface.

There are many interfaces and classes in the Servlet API such as – Servlet, GenericServlet, HttpServlet, ServletRequest, ServletResponse etc.

On java language, Servlet is an interface that must be implemented for creating any web application (user defined Servlets). Servlet is a web component that is deployed on the server to create a dynamic web page

Web application can be of two types —
- Static Web Application (Web Site)
- Dynamic Web Application (Web Site)

Static website is coded using HTML.
Dynamic website is a collection of dynamic web pages whose content changes dynamically. It accesses content from a database or Content Management System (CMS).

Therefore, when we alter or update the content of the database, the content of the website is also altered or updated. Dynamic website uses client-side scripting or server-side scripting or both to generate dynamic content.

(Used)
Servlet - 3.1 Version
JSP — 2.3 Version

Static vs Dynamic Web-site

Static Website	Dynamic Website
Prebuilt content is same every time the page gets loaded.	Contents are generated quickly and changes regularly.
It uses the HTML coding.	It uses the server side languages such as Php, Servlet, JSP and ASP.Net etc for developing a website
It sends the same response for every request.	It may generate different HTML for each of the request.
The content is only changed when someone publishes and updates the file (sends to the web server).	The page contains server-side code which allows the server to generate the unique content when the page is loaded.
Flexibility is the main advantage of static web site.	Content Management System is the main advantage of dynamic website.

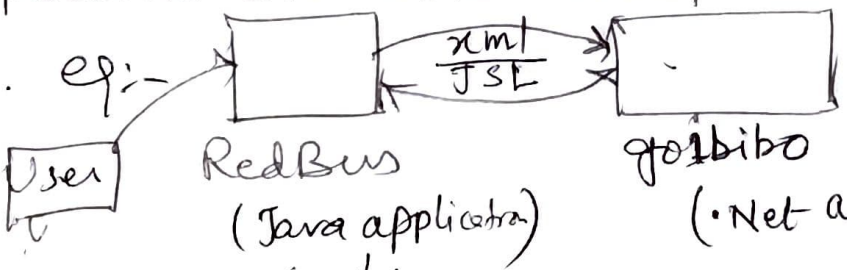
Web application → The application which can provide services over the web. These applications are called web applications. The customers are going to use the application over internet network.

eg:- R-esult check over internet, bank A/C online access, university portal, school portal etc. Web applications are developed using JDBC, Servlets and JSP.

Java Servlet → Servlets of java language can be made by using **J2EE** Java Enterprise Edition

It can be used for developing enterprise and Distributed applications such as — IRCTC, RedBus, etc.

Inter-operable applications can also be developed using J2EE (Servlet). eg:-



(Model-View-Controller) (MVC) is a architectural Design pattern for developing web application