



04

Code Block.

package com.ajinzi;

```
import jakarta.servlet.ServletException;
import jakarta.servlet.ServletOutputStream;
import jakarta.servlet.annotation.WebServlet;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
```

These are the packages that needs to be imported.

[Considering latest Tomcat 10,
released on 12th May.]

"jakarta" is used.]

[Before Tomcat 10, javax can also be used.]

Code :-

@ WebServlet(name = "MySer", urlPatterns =
["/add"])

public class MySer extends HttpServlet

protected void doPost(HttpServletRequest req,
HttpServletResponse res)

throws IOException, ServletException

res.setContentType("text/plain;
charset=UTF-8");

ServletOutputStream out = res.
getOutputStream();

out.print("Hello world");

> This is the servlet file



"Http Servlet" contains information of the client.

The client sends request to web server and that request is made on web container.

All methods that can be called:-

- (1) doGet → For Get
- (2) doPost → For Post
- (3) service → For Both

Now when someone calls "add" in URL, output will be:-

Hello World.

Q2

Define

Ans

X Path.

- X Path is major element in XSLT standard.
- To get a specific piece of data in XML, it is hard to get it. X Path makes it easier.
- X Path describes set of all form elements that are children of body element in X HTML file.
 ↳ select element with [].

/body/form-name[1]

→ Q operator is used to get attribute values.



* Path is W3C recommendation.

4 Callable Statement.

- This interface is used to execute SQL stored procedures.
- The JDBC API provides stored procedure SQL escape syntax that allows stored procedures to be called in standard way for all RDBMS.
- It can return one Result set object or multiple Result set objects.
- Multiple Result set Object are handled using operations inherited from statement.
- For Resultset calls objects should be done before getting values of output parameters.



5. JAR vs WAR.

JAR

- A file with Java classes and metadata associated such as text and images in one file.

WAR

File that is used to distribute collection of JAR Files, JSP, & Servlet static HTML pages that make a web app.

- It is abbreviated form of "Java Archive".

It is abbreviated form of "web Application Archive" (WAR)

- It runs on Java Application Archive that runs on user's machine as well as web app.

→ war runs on application server

- jar file extension

→ war file extension



b. Session Tracking AB'

Session tracking is a way to maintain data of user. It is called session management in servers.

It ~~refers~~ simply means a particular interval of time.

Q2 Cache Control on Servlet

To disable browser cache for JSP, create a filter which is mapped on "url-pattern" of ".jsp" and does basically using doFilter() method.

HttpServlet Response <HttpServlet Response>

res.setHeader("Cache-Control", "no-cache,
no-store");

res.setHeader("Pragma", "no-cache");

res.setDateHeader("Expires", 0);

↳ Proxies



03

01

Pull Parsing vs Push Parsing.

- Events
- Push : Events are generated in API in form of callback functions like `start Document()`, `End Document()` and are beyond control of program.
We as a code could handle events but generation of events is beyond control.

Applications can process synchronously after calling some parse methods, so if parse takes time, app is not stuck at that particular point. Thus, callback event will trigger the app and can further continue with parsing result.



Pull : Events are generated when we call some API. So a code can decide when to generate events.

Note: A client only gets (pulls) XML data when it explicitly asks for it.

When the app pull the data rather than waiting for parsing events, app can pull data in a manner as per needs.

It is just like ~~startAX~~, app calls next() method iteratively.

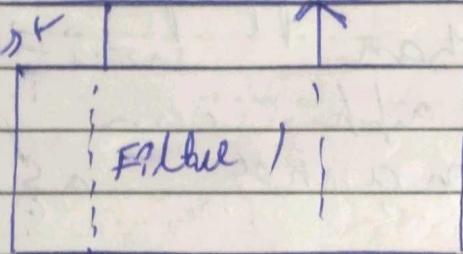
02

Client

web browser

Servlet Container

Request



Filter 2

Filter 3

Response

Servlet

Servlet Invocation with
Filter



When a servant contains code or a method in a servant on behalf of client, HTTP requests that the client sent is, passed directly to servant.

But sometimes, we need to do some pre processing of request for servants.

Sometimes, it becomes useful to modify response from class of servants. Encryption is a good example of this.

It has 3 methods:-

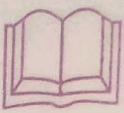
→ init()

→ doFilter()

→ destroy()

→ The orders in which filters are invoked depends on order in which they are written in web.xml file.

It is implemented in orders in
which is written first.



Q3 SQL with JDBC

- You need following steps.

1. Establishing a connection~

Establish with data source you want to use. It can be DBMS, a legacy app, etc.. It is represented with "Connection" object.

```
import java.sql.*;  
Connection conn = DriverManager.get  
Connection(  
DB-URL, username, password);
```

2. Creating statements

A statement is an interface that represents an SQL statement.

They generate Result set objects,



There are 3 kinds of statements

- Statement
- Prepared Statement
- Callable Statement

> Statement stmt = conn.createStatement();

(3) Execute Query

To execute a query, create method from Statement =

ResultSet rs = stmt.executeQuery(query);

(4) Processing Result Set

You access the data in ResultSet object through cursor.

ResultSet rs = stmt.executeQuery(query);

while(rs.next()) {
 --
 --
 --}

}



Code:

```
import java.sql.*;  
public class A {  
    public
```

```
try{ Connection conn = DriverManager.  
    getConnection(
```

```
    DB_URL, username, password);
```

```
Statement stmt = conn.createStatement();  
ResultSet rs = stmt.executeQuery(Qry);
```

```
while(rs.next()) {
```

```
    System.out.println("id" + id);  
    System.out.println("name" + name);
```

```
}
```

```
} catch (SQLException e) {
```

```
// --- Error
```

```
}
```

```
3
```

```
3
```



(5)

Closing Connection

When finished close all connections

conn.close()
~~ss.close()~~