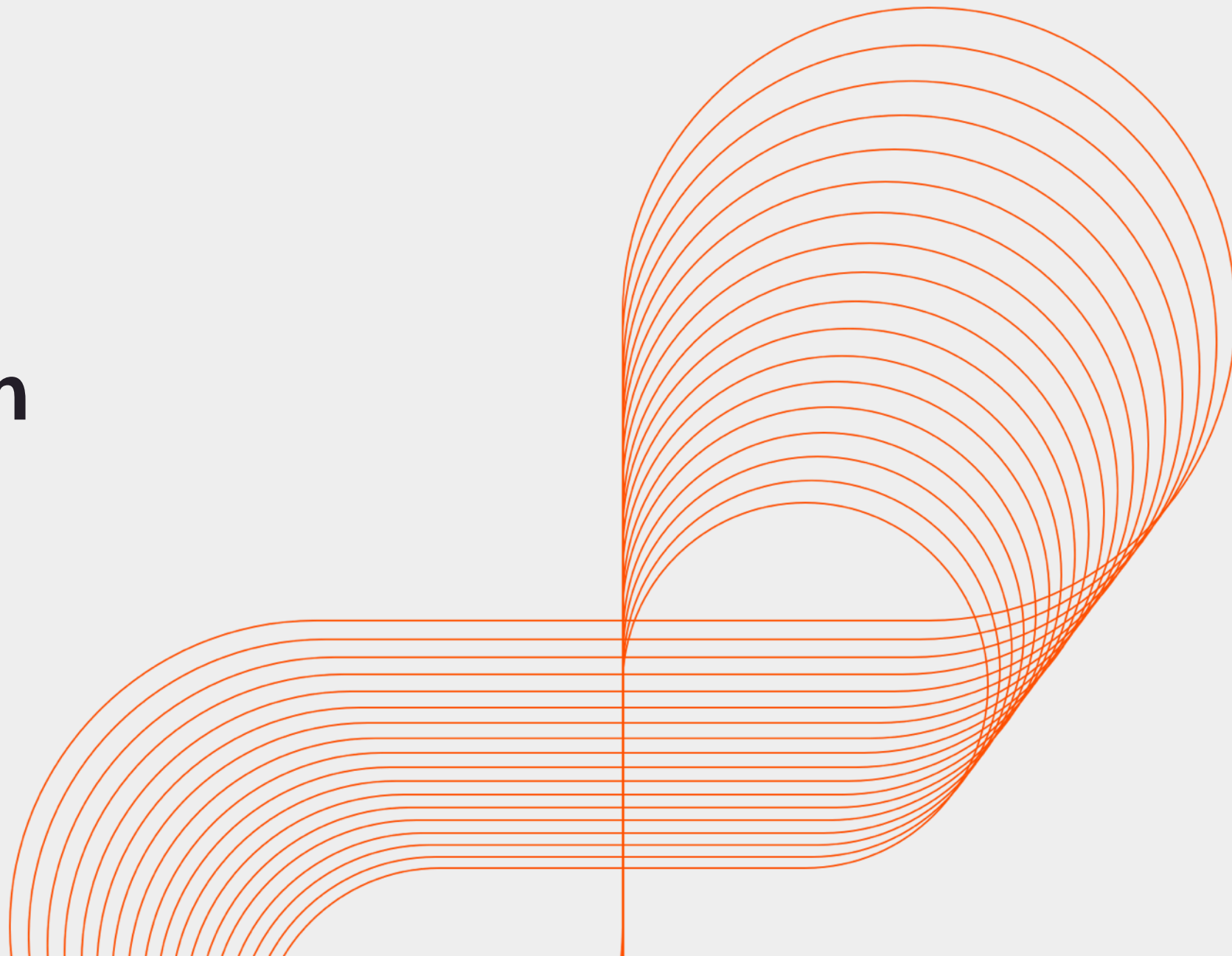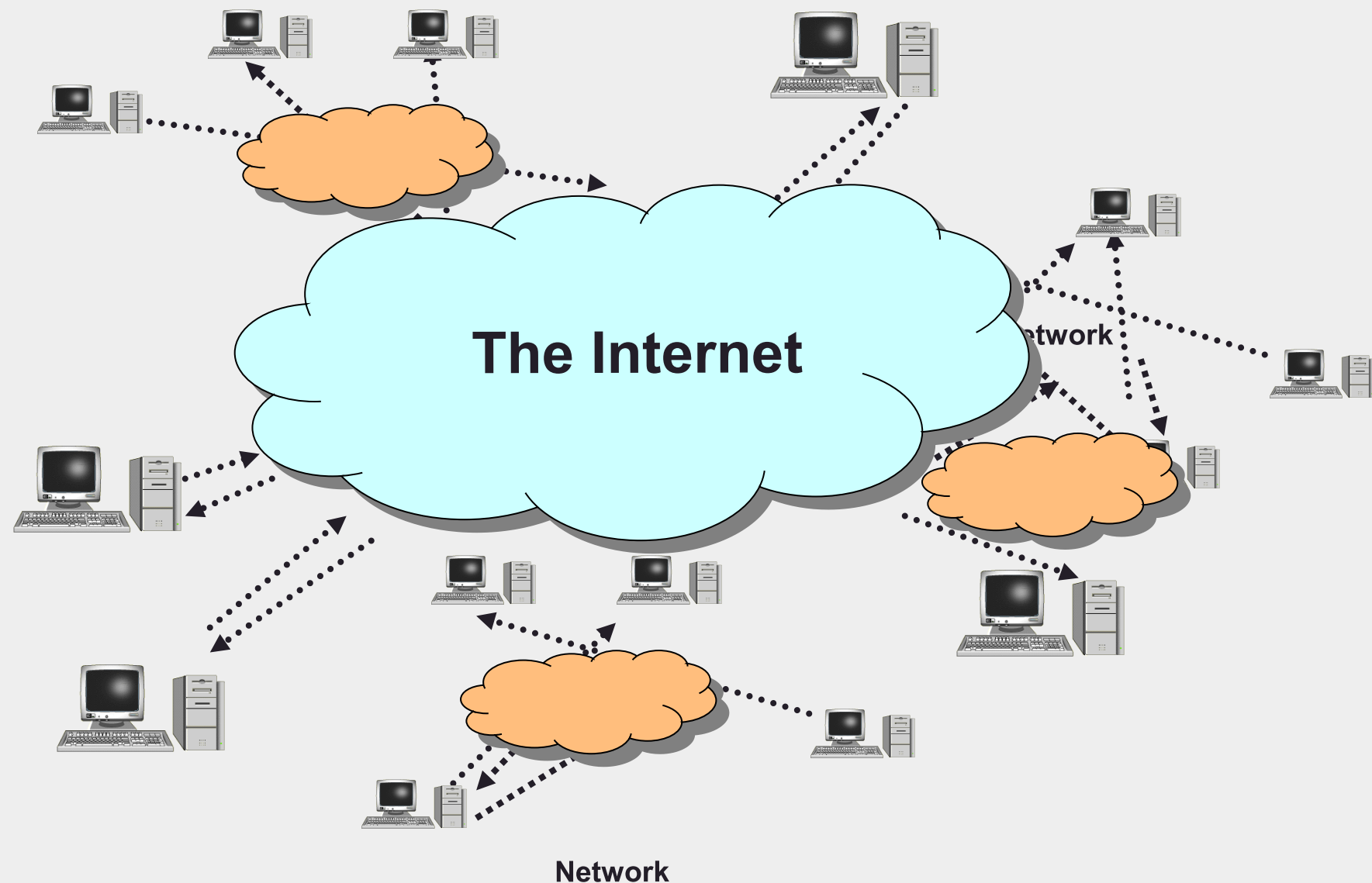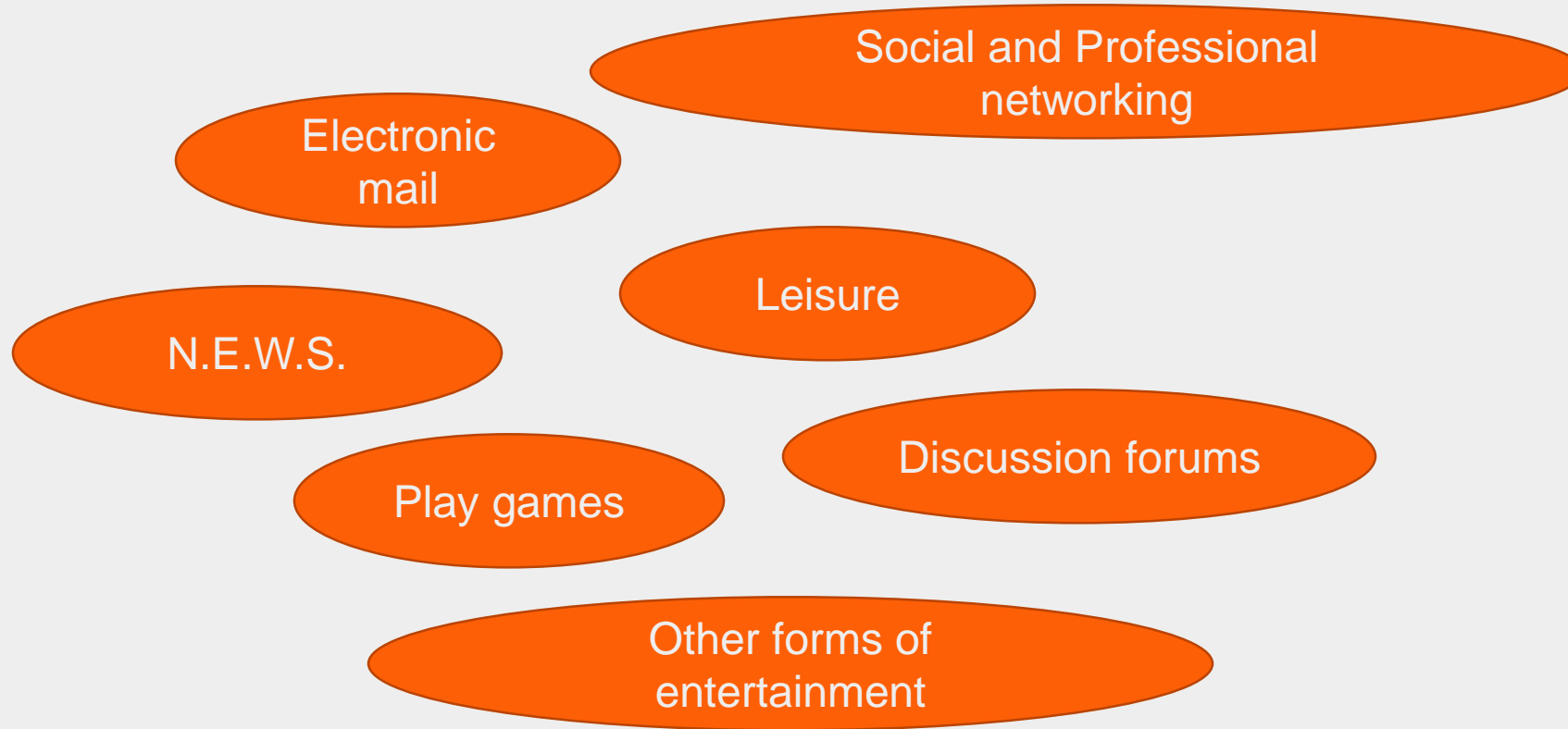# Introduction

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Agenda

- Road to the web

- The HTTP request – response cycle

- Why web based applications ?

- Prevalent server-side technologies

- History

- Multi-tiered architecture

- Java EE containers

- Key components of a Java EE web application

  - Servlets - Server side web components

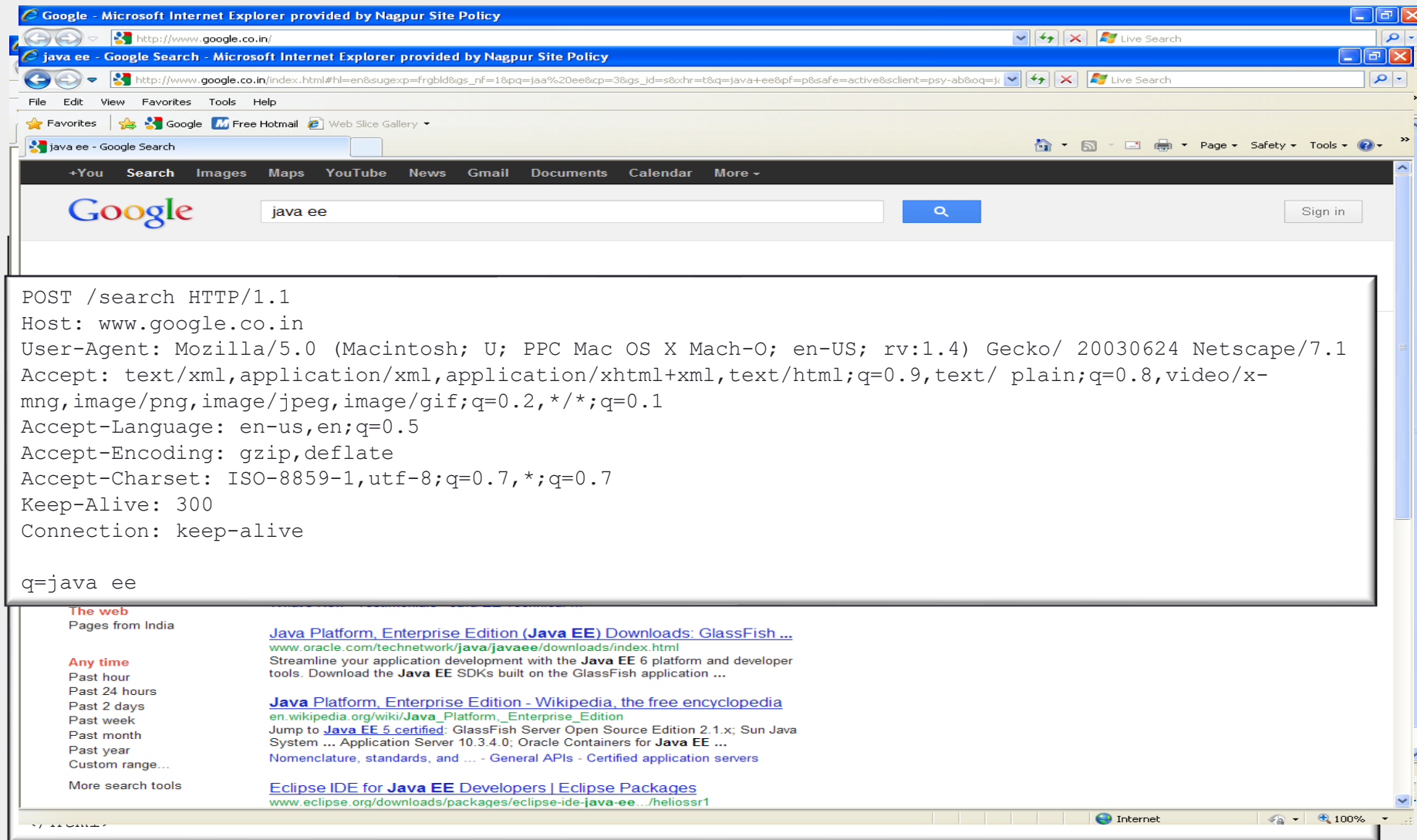 - JSP- Java Server Pages

  - Deployment descriptor- web.xml

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The web

Why web-based applications ?

Social and Professional networking

Electronic mail

Leisure

N.E.W.S.

Discussion forums

Play games

Other forms of entertainment

Web application entities and the request – response cycle


```
POST /search HTTP/1.1
Host: www.google.co.in
User-Agent: Mozilla/5.0 (Macintosh; U; PPC Mac OS X Mach-O; en-US; rv:1.4) Gecko/ 20030624 Netscape/7.1
Accept: text/xml,application/xml,application/xhtml+xml,text/html;q=0.9,text/ plain;q=0.8,video/x-
mng,image/png,image/jpeg,image/gif;q=0.2,*/*;q=0.1
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 300
Connection: keep-alive

q=java ee
```

GET v/s POST

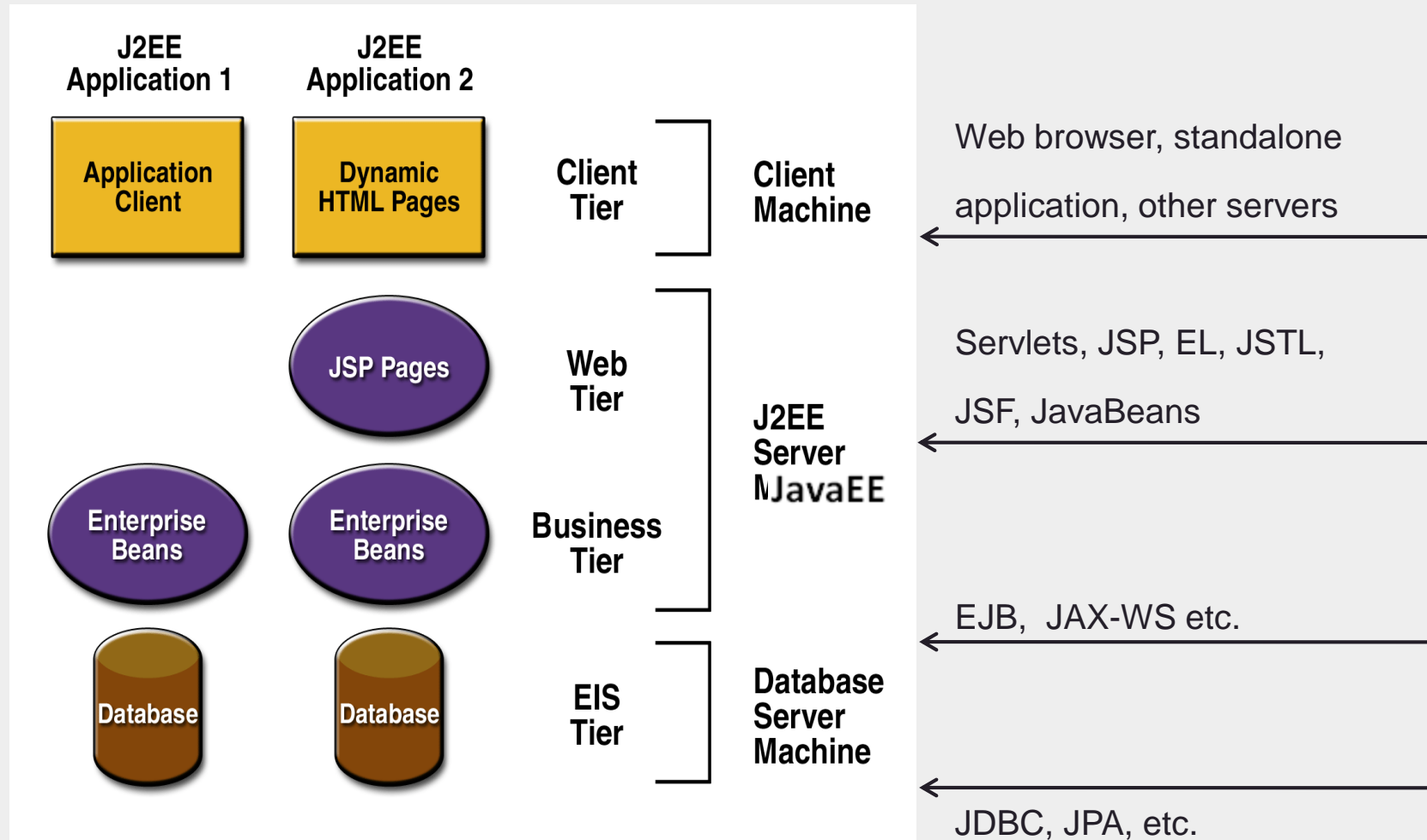|	GET	POST
Target resource type	Static or Dynamic	Dynamic
Type of data	Text	Text and Binary
Amount of data visibility	Max. 255 characters. Data is appended to the URL hence is visible to the user	Unlimited
Caching	Data can be cached in the browser's URL history	Not cached
Nature	Idempotent	Not idempotent

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The HTTP protocol

- Is a stateless protocol

- Is a connectionless protocol

- Some other methods

  - HEAD

    - Identical to a GET, but without the response body. Useful for retrieving only the response headers, without the entire content.

  - PUT

    - Uploads a representation of the specified resource

  - DELETE

    - Deletes the specified resource.

  - TRACE

    - Echoes back the received request, so that a client can see what (if any) changes or additions have been made by intermediate servers.

  - OPTIONS

    - Returns the HTTP methods that the server supports for specified URL
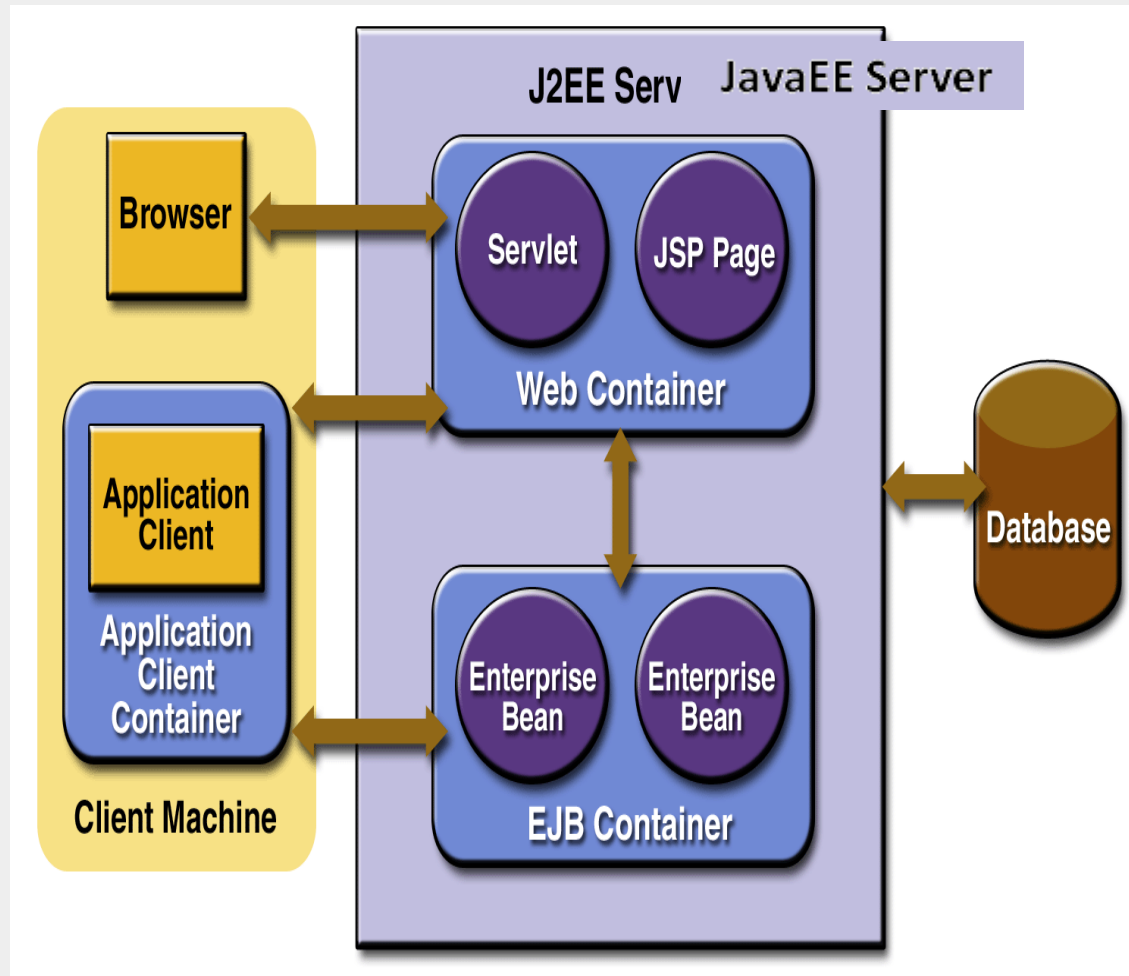
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Servlet / JSP

- Servlets are a small Java-based applications for adding dynamic functionalities to web servers

- Servlet requests are handled by threads

- JSP technology allows developers to render dynamically generated web pages by embedding Java code along with html.

Multi-tiered architecture

- # Three types of Java EE containers
  - ## Web
    - Tomcat, GlassFish, Jetty, WebLogic, WebSphere etc
  - ## EJB
    - Jboss, WebLogic, WebSphere etc
  - ## Application client
    - GlassFish

Key comp. of a JavaEE web app.

- Servlet

- JSP

- The deployment descriptor (web.xml)

Servlet

- It is a specification drafted by Sun

- A Java class which is part of a Java EE web-application and is accessed via a request-response programming model.

- Though not tied to any specific protocol, the Servlet API defines HTTP specific servlet classes.

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Java Server Pages

- It is a specification drafted by Sun.

- A technology primarily used to serve dynamically generated web pages based on HTML, XML or other document types.

- A JSP page is a text document which contains two types of text viz., static data (html, xml, wml etc.) and dynamic JSP elements.

- JSP pages are compiled into servlets

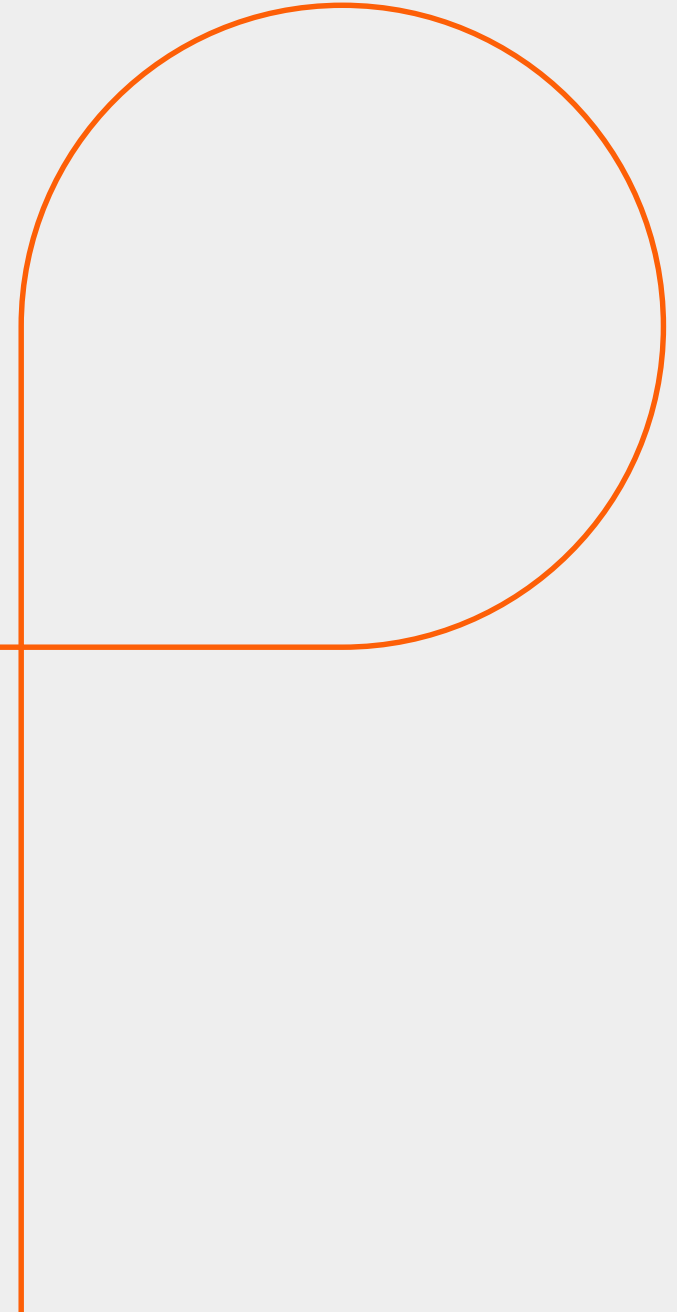Persistent

The deployment descriptor

- The *web.xml* contains configuration and deployment information for web components that comprise the web application.

- The information includes a variety of stuff like mapping servlet classes to their respective url's through which they will be accessed, application wide context parameters, custom error pages etc.

- This configuration is read and used by the web container.

Summary:

- With this we have come to an end of our session, where we discussed :

  - Road to the web

  - The HTTP request – response cycle

  - Why web-based applications ?

  - Prevalent server-side technologies

  - History

  - Multi-tiered architecture

  - Java EE containers

  - Key components of a Java EE web application

Appendix

Thank You

Thank You !!!

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