

# Web Development with Jakarta Server Pages and Servlets

## Session: 1

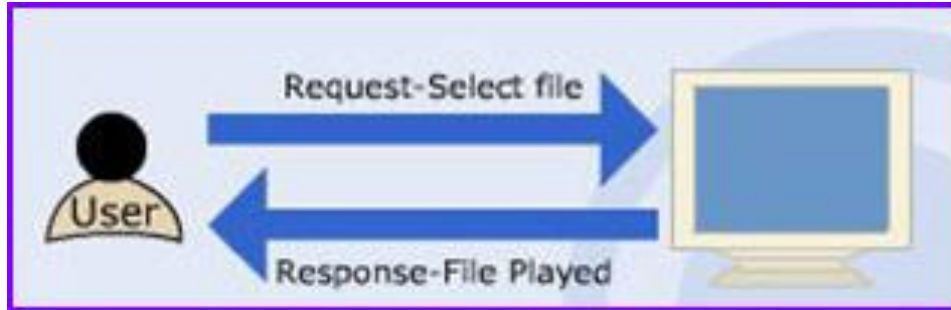
# Introduction to Web Applications



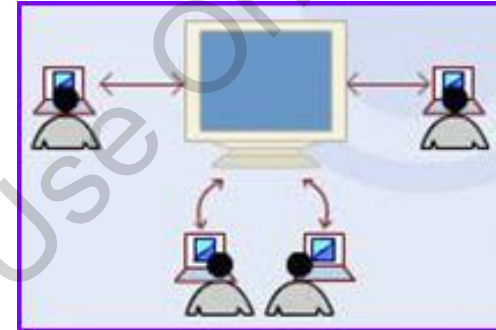
# Objectives

- ❖ Explain Web applications and their advantages
- ❖ Describe the architecture and components of a Web application
- ❖ Describe the role of HTTP protocol and its methods used for accessing Web pages
- ❖ Describe HTTP/2 protocol used for accessing Web pages
- ❖ Explain different types of components used in developing a Web application
- ❖ List the advantages and disadvantages of Servlets
- ❖ Describe Jakarta EE platform and its components

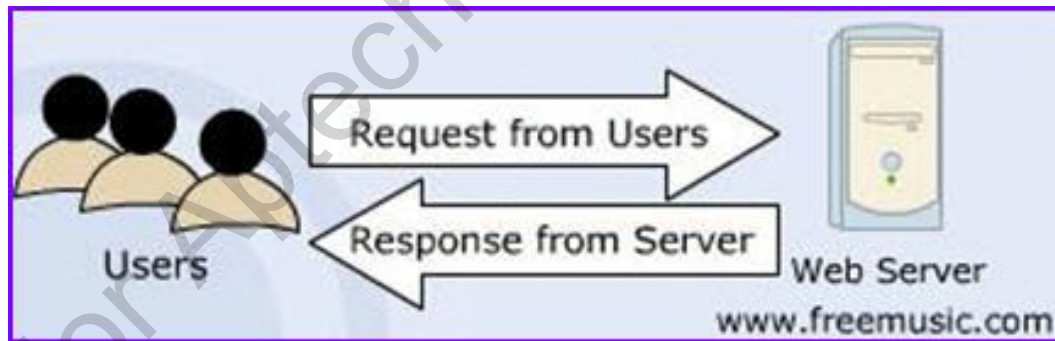
# Introduction



Desktop Application



Networking Application



Web Application

# Web Applications

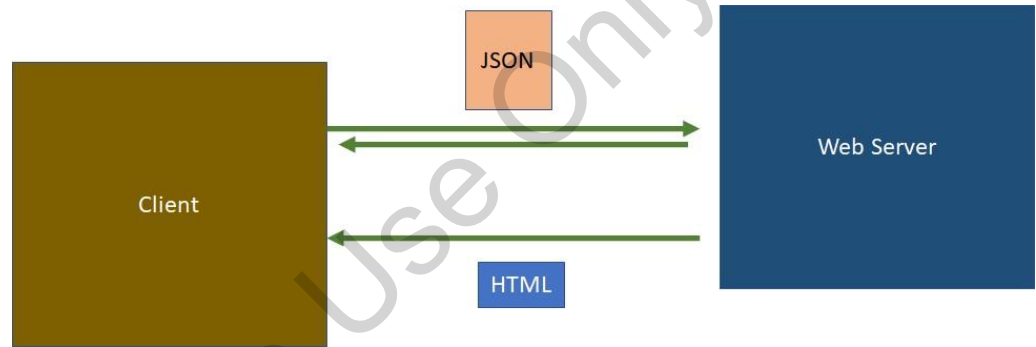
## Web applications advantages

Easier access to information

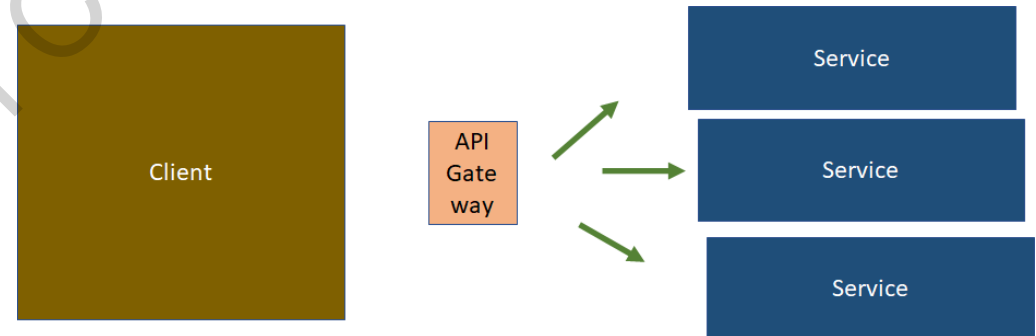
Lower maintenance and deployment costs

Platform independence

Wider visibility



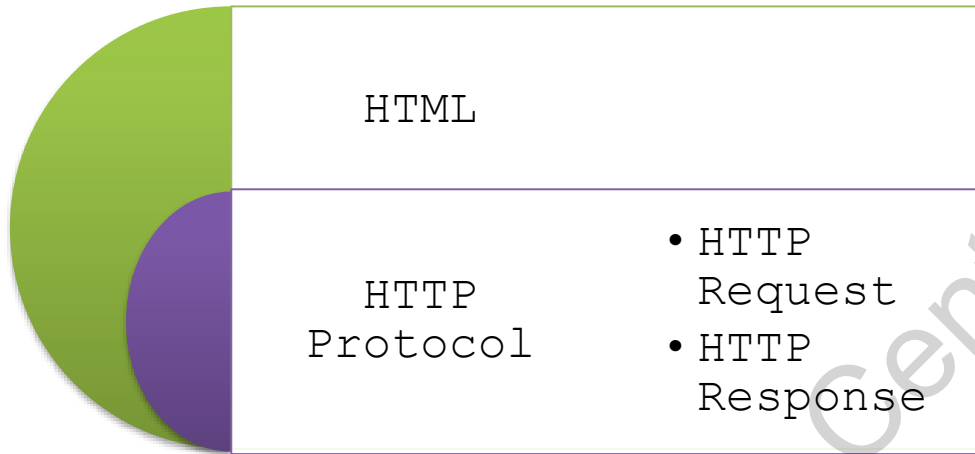
SPA Architecture



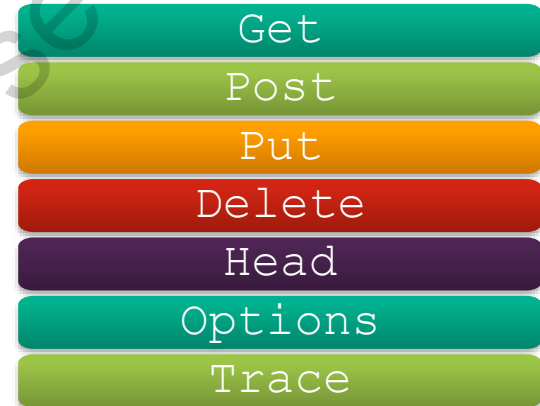
Microservices Architecture

# Web Application Technologies

## Web Application Technologies



## HTTP Methods



## HTTP/2 Protocol Features:



# Java in the Web

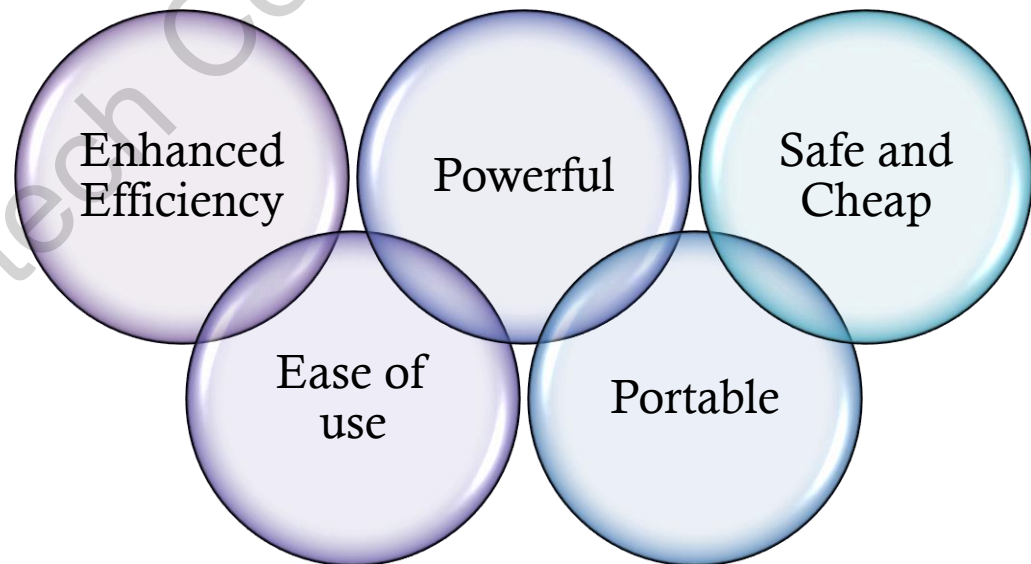
Java Web  
Application  
components

- **Servlet**
- **JSP**

Prevalent  
Server-Side  
Technologies

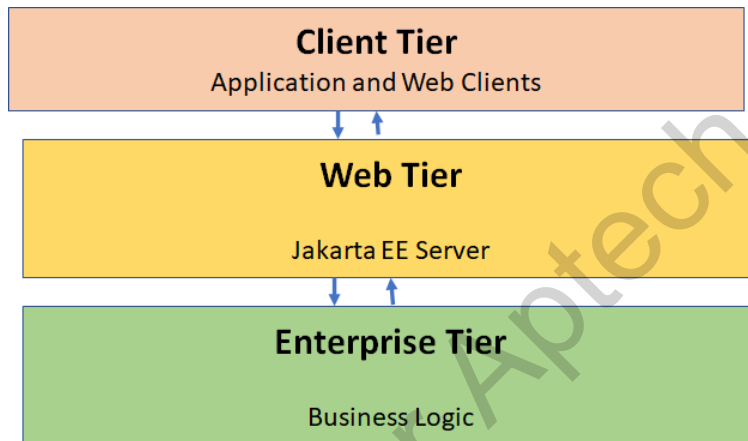
- **Proprietary Web server API (ISAPI)**
- **Server-side JavaScript**
- **Java Servlets**
- **Jakarta Server Pages (JSP)**

Merits of Servlet:

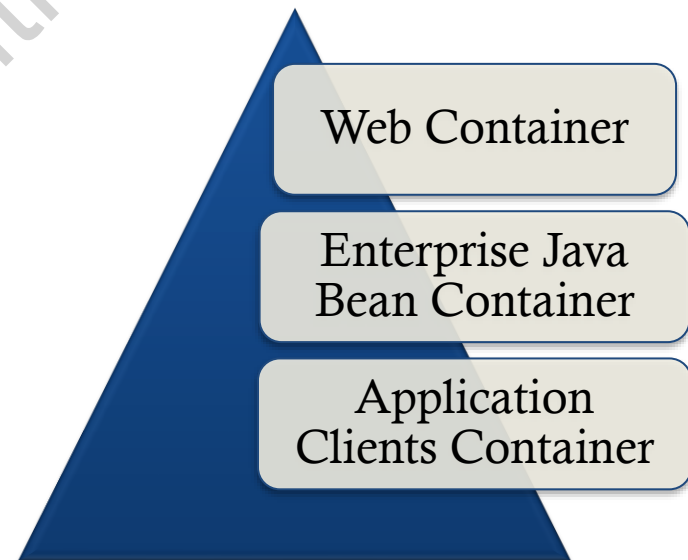


# Jakarta EE Platform and its Components

Components of a  
Java EE Platform



Jakarta EE Components



Jakarta EE server containers

# Summary

- ❖ An application is a collection of programs designed to perform a particular task. Different types of applications are designed for different purposes.
- ❖ A Web application is a software application that runs on a Web server.
- ❖ Web application architecture refers to the application logic distribution between a client and a server.
- ❖ The most common technologies for communication on the Web are HTML and HTTP. HTML is a presentation language which enables Web designer to create visually attractive Web pages.
- ❖ The requests and responses sent to a Web application from one computer to another computer are sent using HTTP.
- ❖ The HTTP request messages uses the HTTP methods for transmitting request data over the Web.
- ❖ Jakarta Web application comprises servlets, JSP pages, images, HTML files, JavaBeans, Applets, and Java classes.
- ❖ Web applications are packaged in .war files, which allow the content of the Web application to be accessed from the application's context root.