

Web Development with Jakarta Server Pages and Servlets

Session: 7

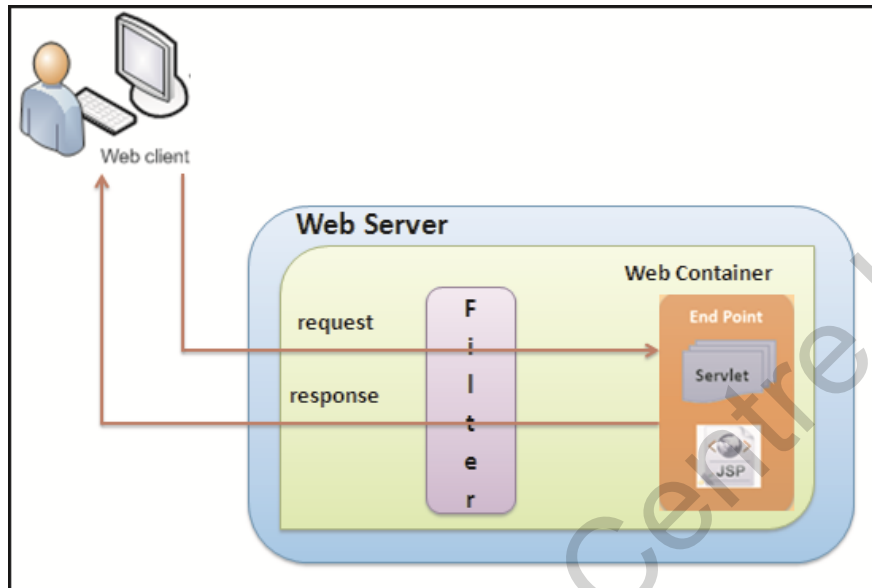
Filters and Annotations



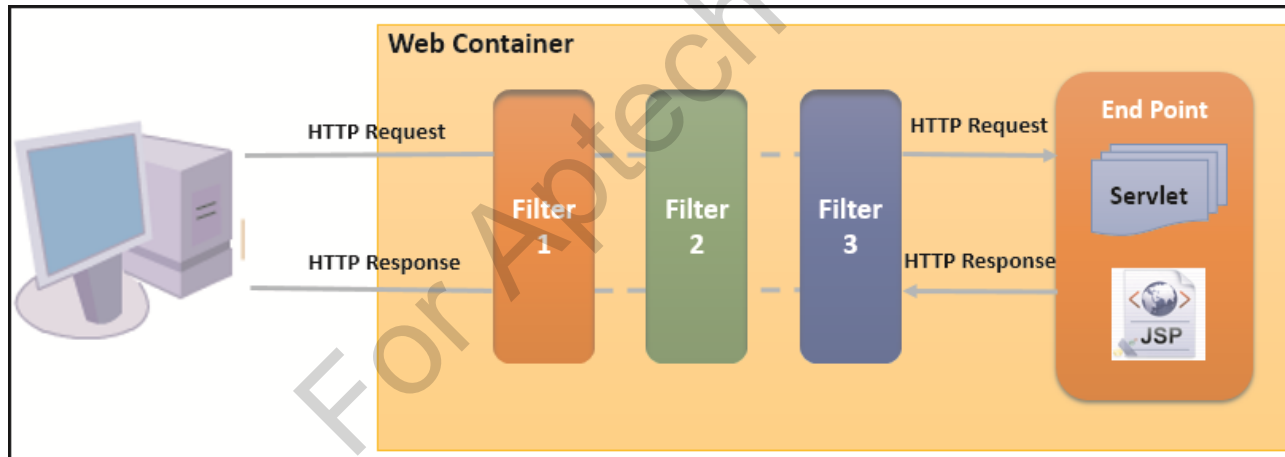
Objectives

- ❖ Explain the concept and working of filters
- ❖ Describe the Servlet filter configuration
- ❖ List the benefits of filters
- ❖ Explain the Filter API interfaces and their methods
- ❖ Explain Filter to Servlet mapping
- ❖ Identify the use of wrapper classes in managing Servlets
- ❖ Explain how to alter a request and response using filters
- ❖ Describe the basic concept of annotations
- ❖ List different types of annotations supported in Servlet API
- ❖ Outline the steps to upload the file using HTML form elements
- ❖ Explain the mechanism to upload files on the server using Servlet
- ❖ Describe Server push in Servlet 4.0

Introduction

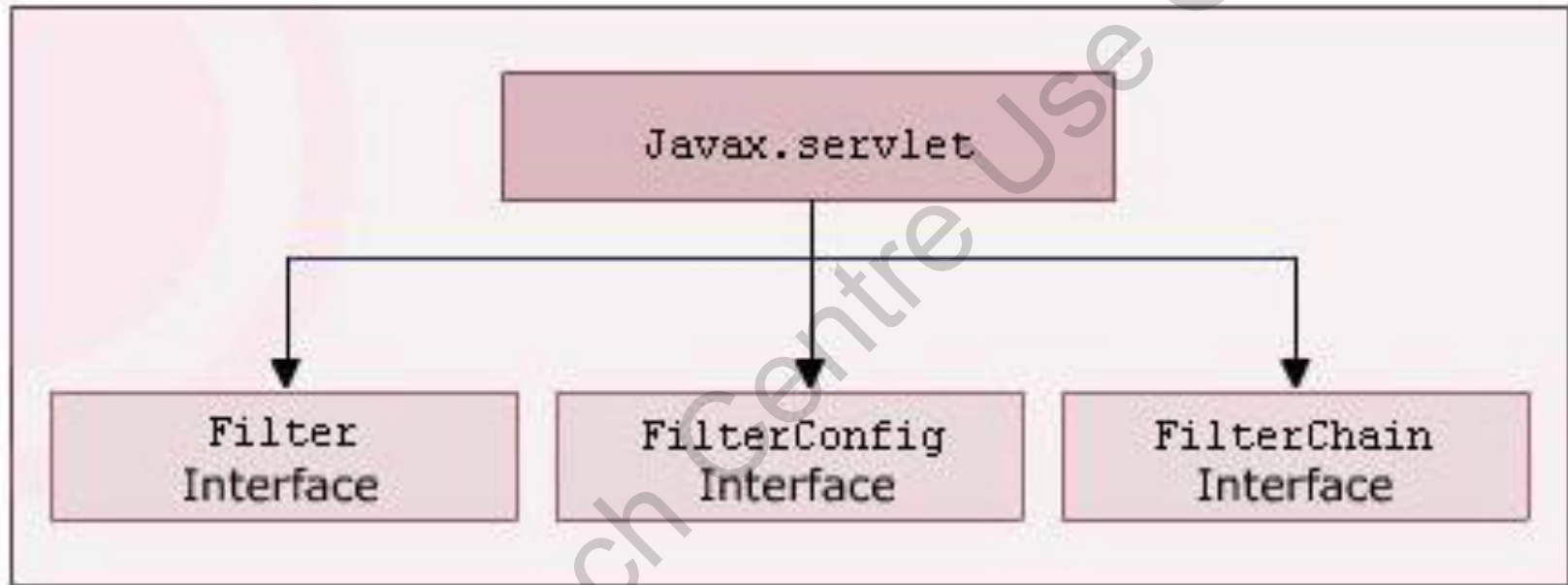


Filters



Filter Chaining

Filter API



Hierarchy of Filter API

Configuring Filters

<display-name>

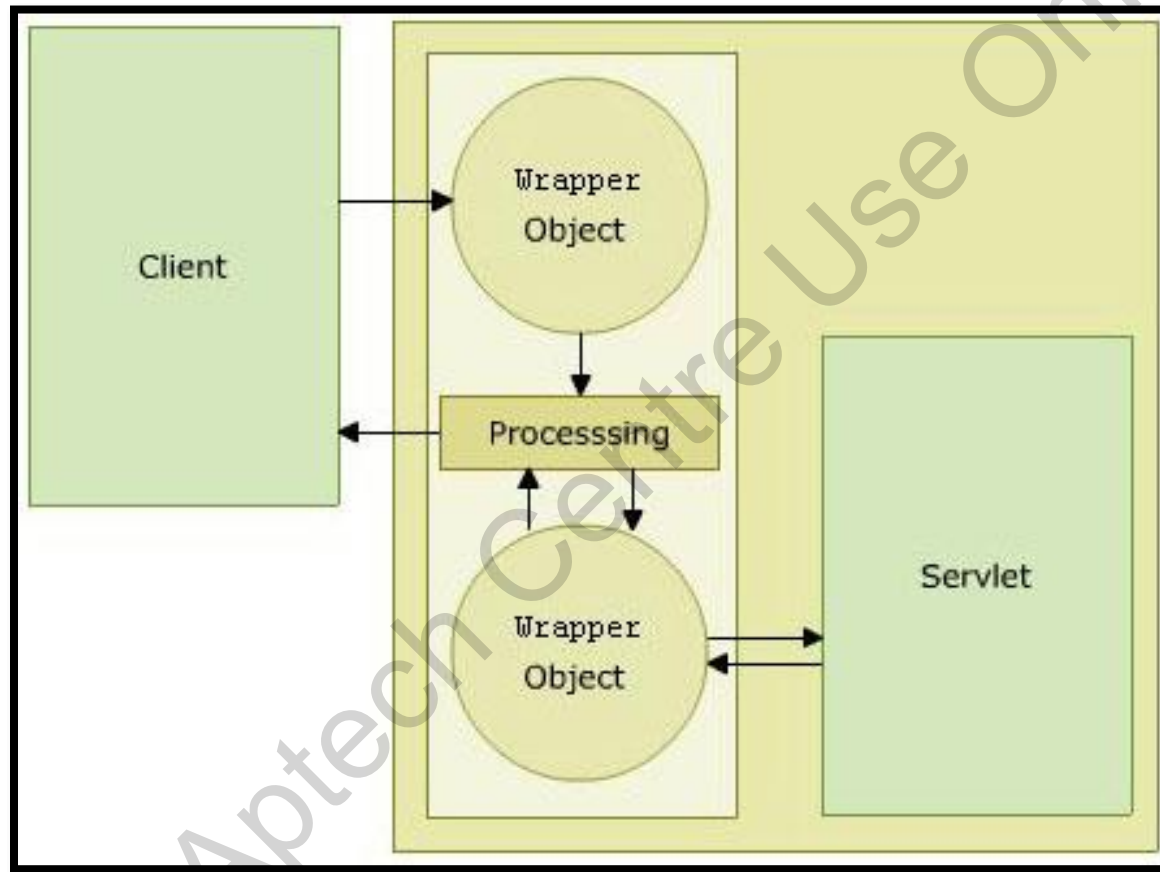
<description>

<filter-name>

<filter-class>

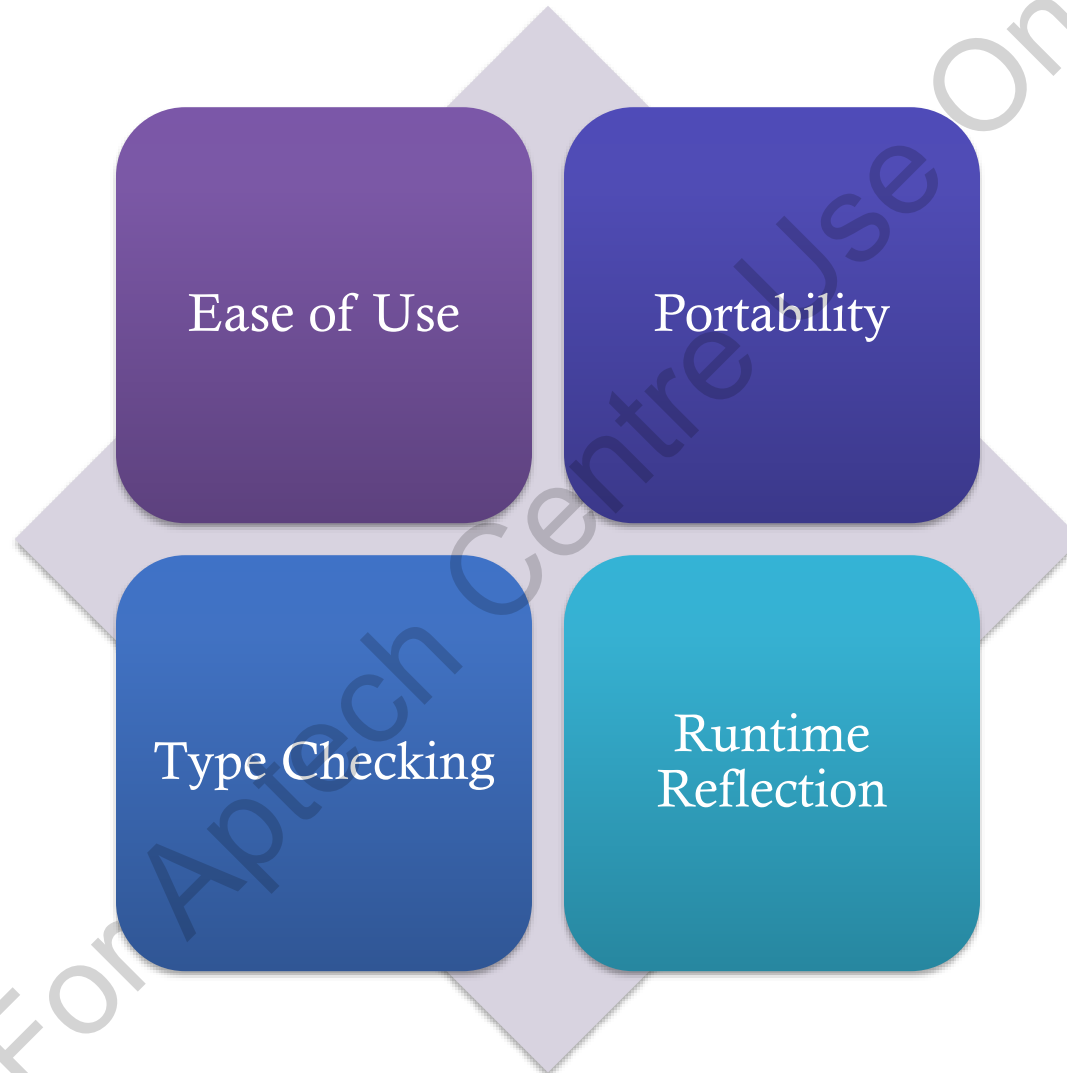
<init-param>

Manipulating Requests and Responses

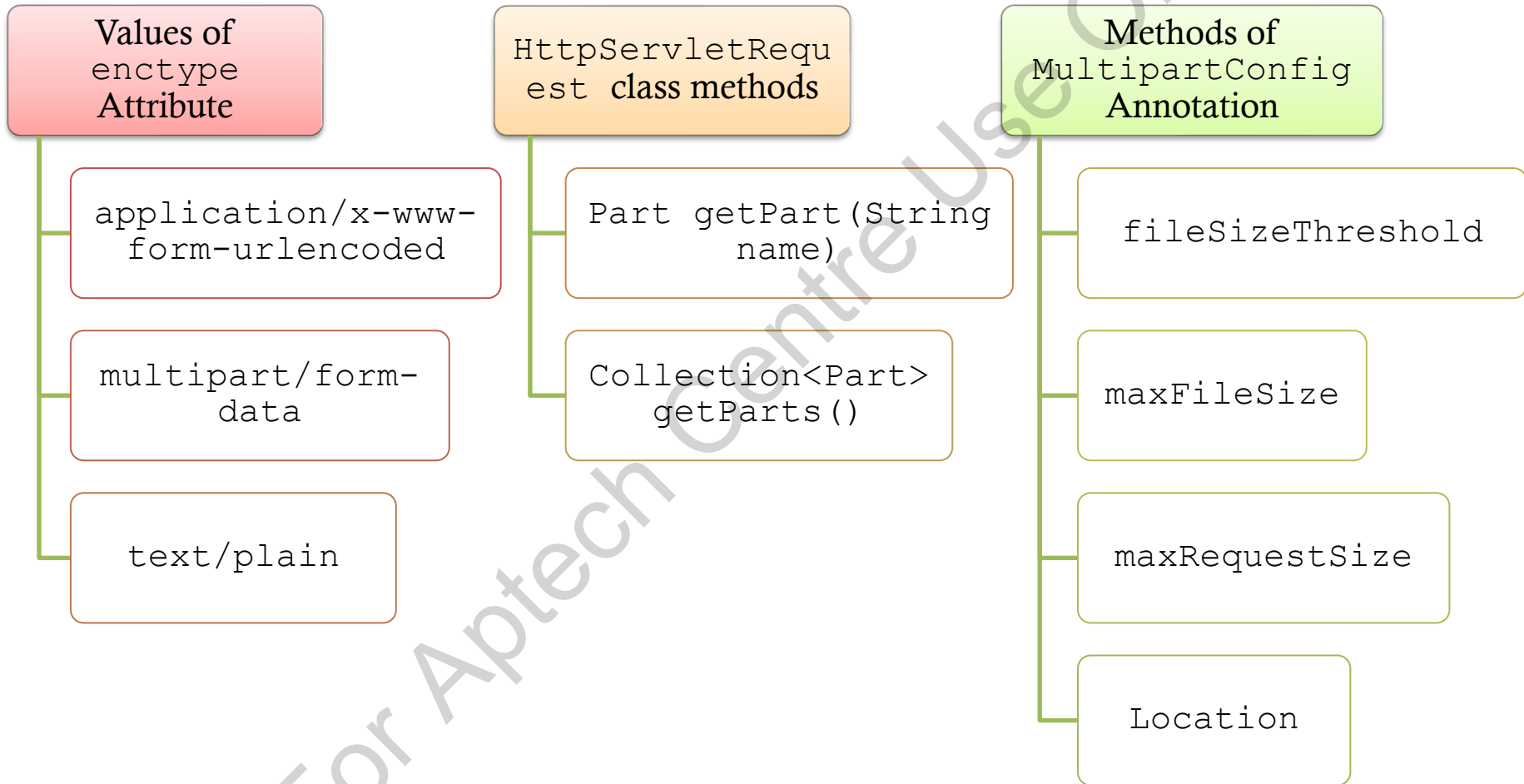


Wrapper Objects

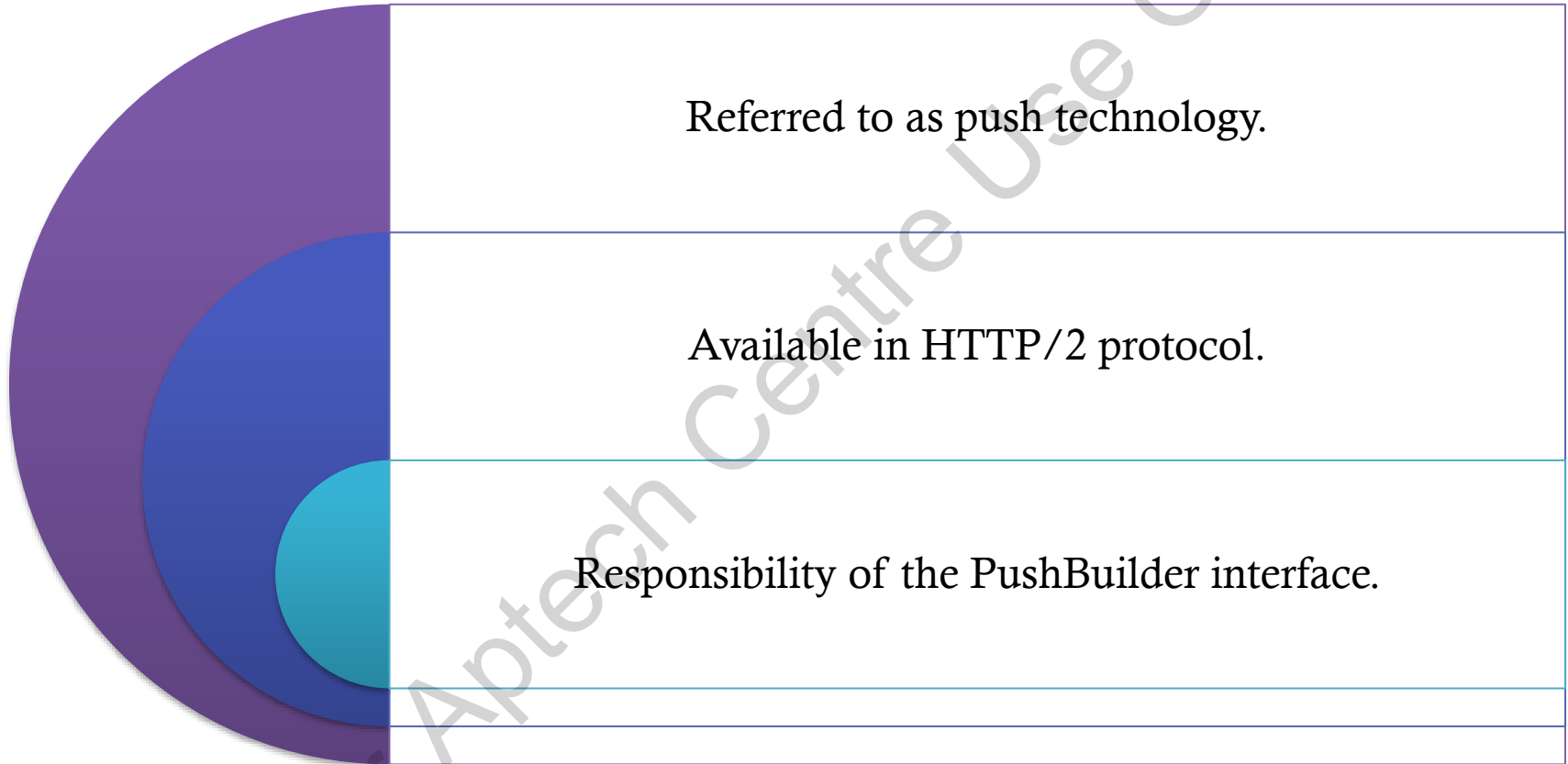
Introduction to Annotations



Uploading Files with Servlet



Server Push Technology in Servlet 4.0



Summary (1-2)

- ❖ The filterer acts as an interface between the client and servlet inside the server. It intercepts the request or response to and from the server. More than one filter can also exist between a client and a servlet. This is called a filter chain.
- ❖ The Filter API is a part of the servlet package. It contains interfaces namely, `Filter`, `FilterConfig`, and `FilterChain`.
- ❖ All the information about the filter is described within the `<filter>` element inside the `web.xml` file. The filter also is to be mapped to the servlet for which it will function. This is done by assigning the URL name and servlet name inside the `<filter-mapping>` element.
- ❖ The request and response to and from the servlet are manipulated by the filter. The wrapper object of `RequestWrapper` or `ResponseWrapper` classes created by the filter intercepts the request or response and sends it to the filter.

Summary (2-2)

- ❖ Annotation can be defined as metadata information that can be attached to an element within the code to characterize it. Annotation can be added to program elements such as classes, methods, fields, parameters, local variables, and packages.
- ❖ The `jakarta.servlet.annotation` package contains a number of annotations, Servlets, filters, and listeners. Apart from this, Servlet API also supports various dependency injection annotations.
- ❖ The file can be uploaded on the server using following two ways namely, Client-side file upload and Server-side file upload.
- ❖ The `jakarta.servlet.annotation.MultipartConfig` annotation is specified on a Servlet class to provide file information to the server while uploading its content.
- ❖ Server Push allows the server to push the Website resources to the client pre-emptively.