**Scripting Element**

In JSP, java code can be written inside the jsp page using the scriptlet tag. JSP Scripting element are written inside **<% %>** tags. These code inside <% %> tags are processed by the JSP engine during translation of the JSP page.

Jsp scripting elements are classified into two types are;

* Language Based Scripting Element
* Advance Scripting Elements (Expression Language)

**Language Based Scripting Element**

These are used to defined script in jsp page, this is traditional approach to define the script in jsp page.

Language Based Scripting Element are classified into 4 types, they are;

* Comment Tag
* Declaration Tag
* Expression Tag
* Scriptlet Tag

**JSP Comment**

This is used to define comment description in jsp page. In jsp page we can insert three types of comments they are;

* Jsp comment
* Html comment
* Java comment

**JSP Comment**

This type of comment is called as hidden comment, because it is invisible when a jsp is translated into a servlet internally.

**Syntax**

<%-- Comment discription %>

## Html Comment

Html comment tag is common for Html, xml and jsp. In a jsp page if we write html comment these comment are visible in the \_jspService(-,-) of the internal Servlet.

## Syntax

<!-- Comment discription -->

## Java Comment

We can write a single or multiline comment of java in a scriptlet tag.

Java comment are allowed only inside scriptlet tags because we can insert java code in a jsp only at a scriptlet tags.

## Syntax

// Single line comment

/\*

Multiline comment

\*/

## JSP Declaration Tag

This is used to declare variable and methods in jsp page will be translate and define as class scope declaration in .java file.

The variable and methods will become global to that jsp. It means in that jsp we can use those variables any where and we can call those method any where.

At the time of translation container inserts the declaration tag into the class. So the variables become instants variables and methods will become instants methods.

The code written inside the jsp declaration tag is placed outside the service() method of auto-generated Servlet, so it does not get memory at each request.

## Syntax

<%! variable declaration **or** method declaration %>

## JSP Expression Tag

Expression tag is used, to find the result of the given expression and send that result back to the client browser. In other words; These are used to show or express the result or response on browser. We can use this as a display result of variable and invoking method.

Each Expression tag of jsp will be internally converted into **out.print()** statement. In jsp out is an implicit object.

The expression tags are converted into out.print() statement and insert into the \_jspService(-,-) of the servlet class by the container.

The expression tags written in a jsp are executed for each request, because \_jspService(-,-) is called for each request.

One expression tag should contains one java expression only. In a jsp we can use expression tag for any number of times.

## Syntax

<%= expression %>

Expression does not need any semicolon (;) by default it places under jsp service() method scope.

**Note:**In jsp, the implicit object are allowed into the tags, which are inserted into \_jspService(-,-). An expression tag goes to \_jspService(-,-) only. So implicit object are allowed in the expression tag.

## JSP Scriptlet Tag

It use to define or insert java code in a jsp. Every java statement should followed by semicolon (;). It will be place into jspService() method.

The scriptlet tags goes to \_jspService(-,-), during translation. It means scriptlet tags are executed for each request. Because \_jspService(-,-) is called for each request.

We can use implicit object of jsp in a scriptlet tag also because scriptlet tag goes to \_jspService(-,-) only.

In a jsp implicit object are allowed in expression tags and scriptlet tags but not in the declaration tags.

## Syntax

<% java code %>