# Attributes

How to pass data from source servlet to destination web component?

--> if source servlet component and destination web component are there in the same web application:

1. **Use request attributes:(Request Scope)** if source servlet comp and destination web component are using same request, response objects)
2. **Use session attributes: (Session Scope)** If Source servlet comp and destination web comp are getting request from same browser s/w of same client machine.
3. **Use ServletContext attributes: (Application Scope)** if source servlet comp and destination web comp are not using same request,response object and not getting request from browser.

Attributes: Attributes is the logical name that hold value having scope.

* If source servlet component and destination web component are there in two different web application of different servers belonging to different machine then use **query string append to the URL of *req.sendRirect()* method**.

**Request Attributes:**

1. These attributes allocated memory in request object having request scope.
2. These are attributes visible through request ie. Data is visible in all web component that are using same request,response objects.
3. By default request object, does not contain any default request attributes.

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| Browser-1  Browser-1  Web application-1  Servlet-1  Servlet-3  Servlet-1  Servlet-4  Forward  Forward |

1. The request attributes created in Servlet-1 component is visible or accisable in servlet-2, servlet-3 component while processing request given to servlet-1 component because they are using same request,response object while processing that request.
2. But not visible and acceable in servlet-4 component because it is not using same request, response objects.

**To create request attributes:**

1. Servlet request attributes must be string and value must be object but we can pass simple value because they will converted into wrapper objects.
2. request.setAttribute(“billAmounth”,6000)

**To read request attributes values:**

1. Integer age = (Integer) req.getAttribute(“billAmounth”);

**To modify request attribute value:**

1. request.setAttribute(“billAmouth”, 9000);
2. setAttribute(--) method is multi-purse method this method creates the attribute if attribute is not already there, otherwise modify the attribute value.

**To remove the attribute value:**

1. request.removeAttribute(“billAmouth”);

**Difference between request parameter(form-data) & request attributes:**

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| **Request Parameter(Form-Data)** | **Request Attributes** |
| This represent input coming to servlet component from end user through browser (as form data) | this represent additional inputs/result sent by source servlet comp to destination web component. We can pass any java object as the request attributes values. |
| To read data from it use request.getParameter(--) | To read data from it use request.getAttributes(--) method |
| One request parameter can have multiple values | One request attributes can only have one value |

**Session Attributes/Http Session Attributes:**

1. Session object allocates memory in the server on 1 per each browser s/w each client machine.
2. Itis not automatically created object, it is ondemand object, it will be created only when we ask for it.
3. **CODE::** *HttpSession ses = req.getSession()*; creates session object in the server for current browser software of client machine if the session object is not already created otherwise locates the existing session object.
4. HttpSession object ant its session object allocates the memory inside the session object. They are visible on all web components of web application irrespective the request,response object they are using but they must get request from that browser s/w of client machine for which Sesson object and session attributes are created.
5. Session attribute scope is session scope. That means they are visible in all web components of web application but specific to a browser s/w or a client machine.
6. The session attribute created in servlet 1 component is visible and accessible in all other web components of the web application but they must get request from same browser of machine.
7. This indicates that session attributes are global with in the web application but specific to each browser of client machine.

* **To create Session attributes:**

HttpSession hts = req.getSession(); hts.setAttribute(“username” “raja”);

* **To modify session attribute:**

HttpSession hts = req.getSession();

hts.setAttribute(“username” “raja1”);

* **To read session attribute values:**

HttpSession hts = req.getSession();

String value = (String) hts.getAttribute(“username”);

* **To remove session attribute**

HttpSession hts = req.getSession();

hts.removeAttribute(“username”);

NOTE:: All tabs and windows of a same browser s/w will be treated as same client.

**Servlet Context Attributes/ Application Attributes:**

1. These attributes allocates memory in ServletContext object which is one per web application.
2. ServletContext attributes are visible in all web components of web application irrepsective of any conditions. They are visible in the entire web application irrespective the request, response objects used by web component and irrespective of the browser s/w from which they are requested.
3. ServletContext attribute scope is application scope that means they are specific to each web application and visible in all web components.