Lecture Objectives

- Understand the differences between a server side forward and a redirect
- Understand the differences between an include and a forward – and when each should be used
We can pass control from a servlet to a JSP with a redirect or a forward.

A redirect is an HTTP status code that causes the browser to load a different page.

```java
response.sendRedirect("results-page.jsp");
```

RequestDispatcher Interface

- An object that receives a request (and response) and sends these objects to a named resource (e.g., servlet, JSP file) on the server
- Operates entirely within the server

```java
String url = "/presentations/presentation1.jsp";
RequestDispatcher dispatcher =
    request.getRequestDispatcher(url);
dispatcher.forward(request, response);
```

/ indicates the path is relative to the root of the Web application. Otherwise relative to the original request.

You can also get a handle from the ServletContext

the forward method transfers control
Are We on Track?

- Code a servlet that
  1. Adds an attribute to the request object
  2. Forwards to a JSP that displays (using EL) the value of the request attribute (in a paragraph tag)

RequestDispatcher is in the `javax.servlet` package

Were We on Track?

```
Servlet
...
request.setAttribute("a", "CSE336");
RequestDispatcher r =
    request.getRequestDispatcher("JSPs/Tracks/TrackForward.jsp");
r.forward(request, response);
```

```
JSP
<h1>Forward Example</h1>
<p>The value of request attribute a is {requestScope.a}</p>
Or
<p>The value of request attribute a is ${a}</p>
```
**Forward / Include**

- RequestDispatcher provides 2 methods
  - `forward`
    - Forwards a request to another resource on the server
    - The destination resource generates the response
    - Called before response buffer is flushed
  - `include`
    - Includes the response of the target in the response generated by the servlet using the dispatcher

You will not likely use the include method in your project – it is mainly for library tags

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**Forward / Include Issues**

- Use the include method of RequestDispatcher to have the servlet provide response body
- Included page:
  - Must be dynamic
  - Cannot set the status code
  - Cannot set headers
  - Must use the flush attribute (and set it to true)
- JSP provides support for includes and forwards
  - `<jsp:include page="pathName" flush="true" />` occurs at request time

*c:import is more powerful, so you may not need to use jsp:include*
Example

```
... 
InfoBean b = new InfoBean();
b.setValue(request.getParameter("value"));
request.setAttribute("myBean", b);
RequestDispatcher r = request.getRequestDispatcher("Next.jsp");
r.forward(request, response);
}
... 
<p>The value that was forwarded is ${myBean.value}&lt;/p&gt;
```

Bean used in the example:

```
package lectures;

public class InfoBean {

    private String value;

    public void setValue(String s) {
        value = s;
    }

    public String getValue() {
        return value;
    }

}
```
Have You Satisfied the Lecture Objectives?

- Understand the differences between a server side forward and a redirect
- Understand the differences between an include and a forward – and in which cases each would be used