

# JEE Course

## Servlets – Responses

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# Content

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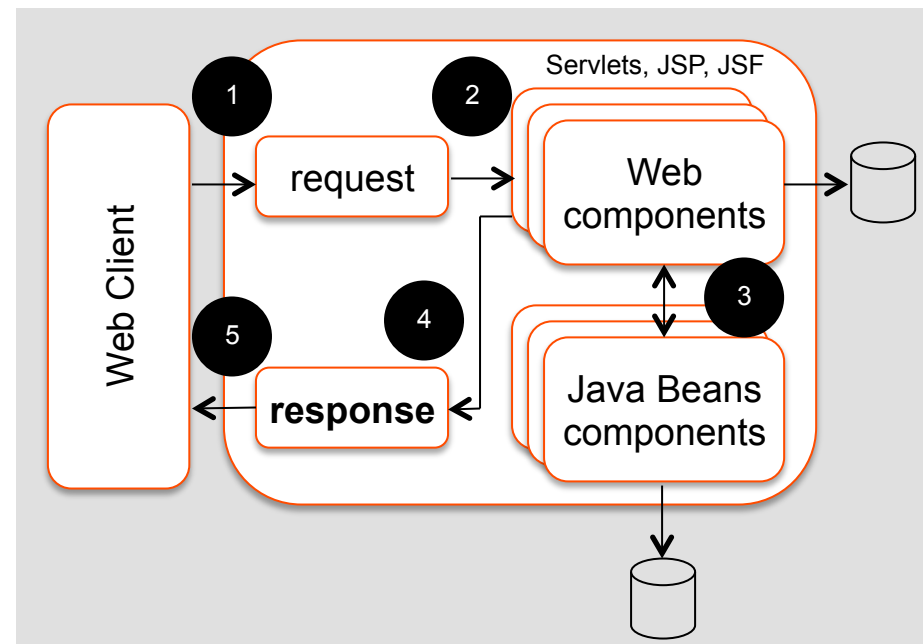
- ▶ Generating text and binary data
- ▶ Setting HTTP status codes
- ▶ Sending headers
- ▶ Sending redirect information



# Request and Response objects

- ▶ The response object implements the **HttpServletResponse** interface and is used to send information to the client
- ▶ Several methods can be used to modify the response object. Some examples:

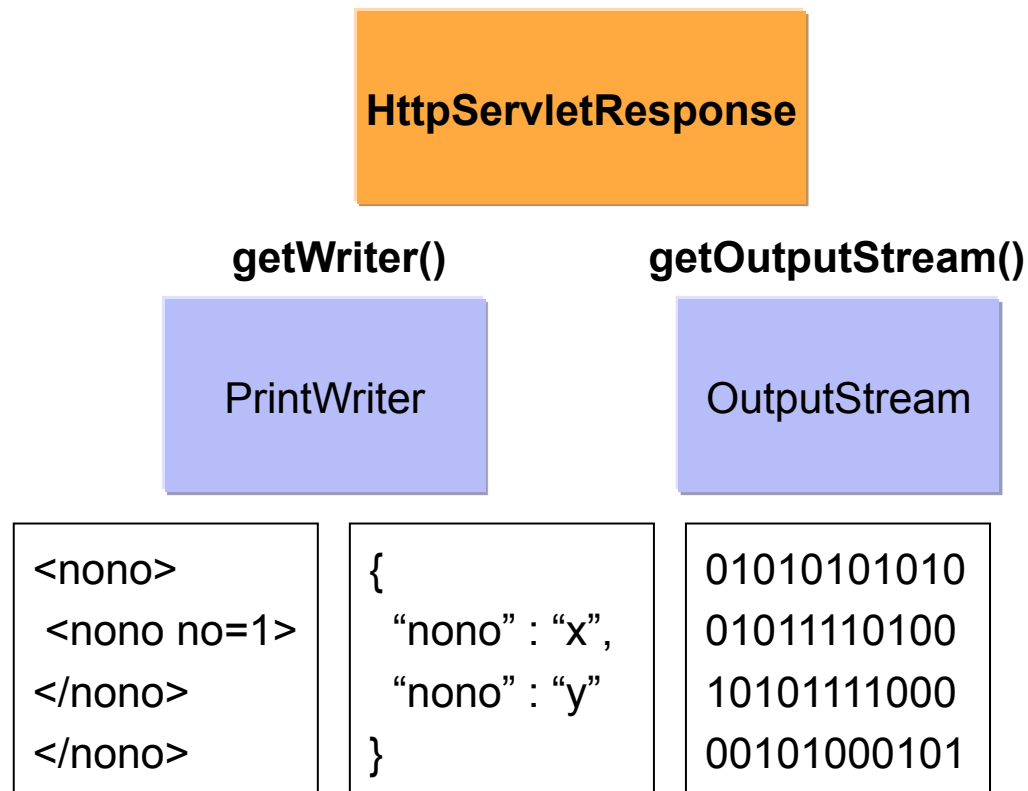
```
getWriter()  
getOutputStream()  
setContentType()  
setContentLength()  
setStatus()  
setHeader()
```



# Generating response



Text or Binary response ?





# Generating a textual responses

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- ▶ Clients (i.e. browsers) should have a way to identify the format of the response in order to properly parse the server content
- ▶ We use the method `setContentType( )`
- ▶ Example:

```
response.setContentType("application/json")
```



# Generating a binary response

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- ▶ To send binary data, use the *getOutputStream* method

- ▶ Example:

```
OutputStream output = response.getOutputStream();
```

- ▶ Do not forget to specify the content type:

- ▶ Example:

```
response.setContentType("application/pdf")
```



## Additional functions

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- ▶ HTTP response messages are composed by:
  - A status line (HTTP/1.1 200 OK);
  - A list of headers (content-length: 200);
  - A blank line;
  - The content (`<html><...></html>`).
- ▶ Servlets can manipulate these elements, by changing status codes, messages, headers and HTTP content, including multipart content.



# Manipulating HTTP status codes (1 of 2)

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- ▶ HTTP status code can be changed: using *setStatus*
- ▶ Integer value ranging from 100 and 599
- ▶ You can use a set of predefined constants defined in the *HttpServletResponse* interface

- ▶ Examples:

```
SC_OK (200)
```

```
SC_NOT_FOUND (404)
```

- ▶ Syntax:

```
void setStatus (int CodStatus);
```





## Manipulating HTTP status codes (2 of 2)

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- ▶ You can also change the status message using the *sendError* method
- ▶ This method receives a status code and a message
- ▶ Syntax:

```
void sendError(int statusCode, String message);
```



# Adding response headers

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- ▶ Headers are used for a variety of useful tasks:
  - ▶ Sending cookies,
  - ▶ Informing the content size
  - ▶ Requesting authentication
- ▶ The following methods can be used to add headers:

```
setHeader(String)  
setDateHeader(int)  
setIntHeader (int)
```



# Generating independent links

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- ▶ To avoid hardcoding the application path, it is recommended to use relative paths
- ▶ Another alternative is getting the context path dynamically calling the *getContextPath* method



# Redirecting requests

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- ▶ To request an automatic redirection from the browser, you must specify the status code 302 and set the header *location* with the desired URL.
- ▶ These tasks can be performed by using the *sendRedirect* method

## Further reading

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*HttpServletResponse* interface:

<http://tomcat.apache.org/tomcat-8.0-doc/servletapi/javax/servlet/http/HttpServletResponse.html>