

HttpServletRequest

Returned Type	Name
<code>java.lang.String</code>	<code>getContextPath()</code> Returns the portion of the request URI that indicates the context of the request.
<code>Cookie[]</code>	<code>getCookies()</code> Returns an array containing all of the <code>Cookie</code> objects the client sent with this request.
<code>long</code>	<code>getDateHeader(java.lang.String name)</code> Returns the value of the specified request header as a <code>long</code> value that represents a <code>Date</code> object.
<code>java.lang.String</code>	<code>getHeader(java.lang.String name)</code> Returns the value of the specified request header as a <code>String</code> .
<code>java.util.Enumeration</code>	<code>getHeaderNames()</code> Returns an enumeration of all the header names this request contains.
<code>java.util.Enumeration</code>	<code>getHeaders(java.lang.String name)</code> Returns all the values of the specified request header as an <code>Enumeration</code> of <code>String</code> objects.
<code>java.lang.String</code>	<code>getMethod()</code> Returns the name of the HTTP method with which this request was made, for example, GET, POST, or PUT.
<code>java.lang.String</code>	<code>getQueryString()</code> Returns the query string that is contained in the request URL after the path.
<code>java.lang.String</code>	<code>getRequesteSessionId()</code> Returns the session ID specified by the client.
<code>java.lang.StringBuffer</code>	<code>getRequestURL()</code> Reconstructs the URL the client used to make the request.
<code>HttpSession</code>	<code>getSession()</code> Returns the current session associated with this request, or if the request does not have a session, creates one.
<code>HttpSession</code>	<code>getSession(boolean create)</code> Returns the current <code>HttpSession</code> associated with this request or, if there is no current session and <code>create</code> is true, returns a new session.

ServletRequest

Returned Type	Name
int	getContentLength() Returns the length, in bytes, of the request body and made available by the input stream, or -1 if the length is not known.
java.lang.String	getContentType() Returns the MIME type of the body of the request, or null if the type is not known.
ServletInputStream	getInputStream() Retrieves the body of the request as binary data.
java.lang.String	getProtocol() Returns the name and version of the protocol the request uses in the form protocol/majorVersion.minorVersion, for example, HTTP/1.1.
java.io.BufferedReader	getReader() Retrieves the body of the request as character.
java.lang.String	getRemoteAddr() Returns the Internet Protocol (IP) address of the client that sent the request.
java.lang.String	getRemoteHost() Returns the fully qualified name of the client that sent the request.
java.lang.String	getServerName() Returns the host name of the server that received the request.
int	getServerPort() Returns the port number on which this request was received.
boolean	isSecure() Returns a boolean indicating whether this request was made using a secure channel, such as HTTPS.

HttpServletResponse	
Returned Type	Name
void	addCookie(Cookie cookie) Adds the specified cookie to the response.
void	addHeader(java.lang.String name, java.lang.String value) Adds a response header with the given name and value.
void	sendRedirect(java.lang.String location) Sends a temporary redirect response to the client using the specified redirect location URL.

ServletResponse	
Returned Type	Name
java.io.PrintWriter	getWriter() Returns a PrintWriter object that can send character text to the client.
void	setContentLength(int len) Sets the length of the content body in the response In HTTP servlets, this method sets the HTTP Content-Length header.
void	setContentType(java.lang.String type) Sets the content type of the response being sent to the client, if the response has not been committed yet.

HelloWorld.java

```
import java.io.*;
import javax.servlet.
import javax.servlet.http.*;

public class HelloWorld extends HttpServlet {

    public void doGet( HttpServletRequest request, HttpServletResponse response)
        throws IOException, ServletException {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        out.println("<html>");
        out.println("<head>");
        out.println("<title>Hello World!</title>");
        out.println("</head>");
        out.println("<body>");
        out.println("<h1>Hello World!");
        out.println("</body>");
        out.println("</html>");
    }
}
```

JPEGServlet

```
import javax.servlet.*;
import javax.servlet.http.*;
import java.io.*;
import java.util.*;
import com.sun.image.codec.jpeg.*;
import java.awt.image.*;
import java.awt.*;

public class JPEGServlet extends HttpServlet {
    //Process the HTTP Get request
    public void doGet(HttpServletRequest request, HttpServletResponse
response)
        throws ServletException, IOException {
        response.setContentType("image/jpeg");
        ServletOutputStream out = response.getOutputStream();
        BufferedImage image = new BufferedImage(100,100,
BufferedImage.TYPE_INT_RGB);
        Graphics g = image.getGraphics();
        g.setColor(Color.blue);
        g.fillRect(0, 0, 100, 100);
        g.setColor(Color.red);
        g.drawOval(0, 0, 100,100);
        g.drawString("Hello World!",100,10);
        JPEGImageEncoder encoder =JPEGCodec.createJPEGEncoder(out);
        encoder.encode(image);
        out.close();
    }
    //Process the HTTP Post request
    public void doPost(HttpServletRequest request, HttpServletResponse
response)
        throws ServletException, IOException {
        doGet(request,response);
    }
}
```

Form.java

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class Form extends HttpServlet {
    public void doGet(HttpServletRequest request, HttpServletResponse response)
        throws IOException, ServletException {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        out.println("<head><title>A Simple Example</title></head>");
        out.println("<body>");
        out.println("<h1>A Simple Example</h1>");
        out.println("<form method='post' action='Form'>");
        out.println("What's your name? <input type='text' name='name' /><p />");
        out.println("What's the combination?<p />");
        out.println("<input type='checkbox' name='words' value='eenie' checked />eenie");
        out.println("<input type='checkbox' name='words' value='meenie' />meenie");
        out.println("<input type='checkbox' name='words' value='minie' checked />minie");
        out.println("<input type='checkbox' name='words' value='moe' />moe<p />");

        out.println("What's your favorite color? ");
        out.println("<select name='color'>");
        out.println("<option value='red'>red</option>");
        out.println("<option value='green'>green</option>");
        out.println("<option value='blue'>blue</option>");
        out.println("<option value='chartreuse'>chartreuse</option>");
        out.println("</select>");
        out.println("<p />");
        out.println("<input type='submit' name='.submit' />");
        out.println("</form>");
        out.println("<hr />");

        if (request.getParameterNames().hasMoreElements()) {
            out.println("Your name is <em>"+request.getParameter("name")+"</em><p />");
            out.println("The keywords are: <em> ");
            String [] words=request.getParameterValues("words");
            for (int i=0; words != null && i<words.length; i++)
                out.println(words[i] + " ");
            out.println("</em><p />Your favorite color is <em>");
            out.println(request.getParameter("color")+"</em><hr />");
        }
        out.println("</body>");
        out.println("</html>")
    }

    // Do this because the servlet uses both post and get
    public void doPost(HttpServletRequest request, HttpServletResponse response)
        throws IOException, ServletException {
        doGet(request,response);
    }
}
```

PrintEnv.java

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class PrintEnv extends HttpServlet {
    public void doGet(HttpServletRequest request, HttpServletResponse response)
        throws IOException, ServletException
    {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        out.println("<html>");
        out.println("<head>");
        out.println("<title>Env Variables</title>");
        out.println("</head>");
        out.println("<body>");
        out.println("<h1>Values of Environment Variables</h1>");
        out.println("SERVERNAME=" + request.getServerName() + "<br/>");
        out.println("SERVERPROTOCOL=" + request.getProtocol() + "<br/>");
        out.println("REQUEST_METHOD=" + request.getMethod() + "<br/>");
        out.println("REMOTE_USER=" + request.getRemoteHost() + "<br/>");
        out.println("</body>");
        out.println("</html>");
    }
}
```

CookieExample.java

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class CookieExample extends HttpServlet {
    public void doGet(HttpServletRequest request, HttpServletResponse response)
        throws IOException, ServletException {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        boolean loggedIn = false;
        int numTimes = 0;

        Cookie [] pageCookies = request.getCookies();

        for (int x=0; pageCookies != null && x < pageCookies.length; x++) {
            if (pageCookies[x].getName().compareTo("loggedIn")==0)
                loggedIn = true;
            if (pageCookies[x].getName().compareTo("numTimes")==0)
                numTimes = (new Integer(pageCookies[x].getValue())).intValue()+1;
        }

        String login = request.getParameter("login");
        String password = request.getParameter("password");

        if (login != null && login.compareTo("hello") == 0 &&
            password != null && password.compareTo("world") == 0) {
            loggedIn = true;
        }

        if (loggedIn) {
            response.addCookie(new Cookie("loggedIn","true"));
            response.addCookie(new Cookie("numTimes",Integer.toString(numTimes)));
        }

        out.println("<head><title>Simple Cookie Example</title></head>");
        out.println("<body> <h1>A Simple Cookie Example</h1>");

        if (loggedIn) {
            out.println("You have visited this page " + numTimes + " times.");
            out.println("<li><a href='CookieLogout'>Logout</a></li>");
        }
        else {
            if (login != null) out.println("Login failed! Please try again. <br>");
            out.println("<form action='CookieExample' >");
            out.println("Login <input type='text' name='login' />");
            out.println("Password <input type='text' name='password' />");
            out.println("<input type='submit' />");
            out.println("</form>");
        }
        out.println("<li><a href='CookieExample'>Count</a></li>");
        out.println("</body></html>")
    }
}
```

CookieLogout.java

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class CookieLogout extends HttpServlet {
    public void doGet(HttpServletRequest request,
        HttpServletResponse response)
        throws IOException, ServletException
    {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        Cookie myCookie = new Cookie("loggedIn", "true");
        myCookie.setMaxAge(0);
        response.addCookie(myCookie);

        out.println("<head><title>Simple Cookie Example</title></head>");
        out.println("<body>");
        out.println("<h1>A Simple Cookie Example</h1>");
        out.println("Thanks for visiting, please come again.");
        out.println("<a href='CookieExample'>Count</a>");
        out.println("</body>");
        out.println("</html>");
    }
}
```

HiddenExample.java

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class HiddenExample extends HttpServlet {
    public void doGet(HttpServletRequest request, HttpServletResponse response)
        throws IOException, ServletException {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        String login = request.getParameter("login");
        String password = request.getParameter("password");
        String loggedIn = request.getParameter("loggedIn");
        String numTimes = request.getParameter("numTimes");
        int nTimes = 0;

        if (numTimes != null)
            nTimes = Integer.parseInt(numTimes) + 1;

        if (login != null && login.compareTo("hello") == 0 &&
            password != null && password.compareTo("world") == 0) {
            loggedIn = "true";
        }

        out.println("<head><title>Simple HiddenFields Example</title></head>");
        out.println("<body>");
        out.println("<h1>A Simple Hidden Fields Example</h1>");

        if (loggedIn != null) {
            out.println("You have visited this page " + nTimes + " times.");
            out.println("<li><a href='HiddenLogout'>Logout</a></li>");
        }
        else {
            if (login != null)
                out.println("Login failed! Please try again. <br>");
            out.println("<form action='HiddenExample' >");
            out.println("Login <input type='text' name='login' />");
            out.println("Password <input type='text' name='password' />");
            out.println("<input type='submit' />");
            out.println("</form>");
        }
        out.println("<form action='HiddenExample'>");

        if (loggedIn != null) {
            out.println("<input type='hidden' name='loggedIn' value='true' />");
            out.println("<input type='hidden' name='numTimes' value='" + nTimes + "' />");
        }

        out.println("<input type='submit' value='Count' />");
        out.println("</form>");
        out.println("</body>");
        out.println("</html>");
    }
}
```

HiddenLogout.java

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class HiddenLogout extends HttpServlet {
    public void doGet(HttpServletRequest request, HttpServletResponse response)
        throws IOException, ServletException {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        out.println("<head><title>Simple Hidden Fields Example</title></head>");
        out.println("<body>");
        out.println("<h1>A Simple Hidden Fields Example</h1>");
        out.println("Thanks for visiting, please come again.");

        out.println("<form action='HiddenExample'>");
        out.println("<input type='submit' value='Count' />");
        out.println("</form>");

        out.println("</body>");
        out.println("</html>");
    }
}
```

URLExample.java

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class URLExample extends HttpServlet {
    public void doGet(HttpServletRequest request, HttpServletResponse response)
        throws IOException, ServletException {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        String login = request.getParameter("login");
        String password = request.getParameter("password");
        String loggedIn = request.getParameter("loggedIn");
        String numTimes = request.getParameter("numTimes");
        int nTimes = 0;

        if (numTimes != null)
            nTimes = Integer.parseInt(numTimes) + 1;

        if (login != null && login.compareTo("hello") == 0 &&
            password != null && password.compareTo("world") == 0) {
            loggedIn = "true";
        }

        out.println("<head><title>Simple URL Rewriting Example</title></head>");
        out.println("<body>");
        out.println("<h1>A Simple URL Rewriting Example</h1>");

        if (loggedIn != null) {
            out.println("You have visited this page " + nTimes + " times.");
            out.println("<li><a href='URLLogout'>Logout</a></li>");
        }
        else {
            if (login != null)
                out.println("Login failed! Please try again. <br>");
            out.println("<form action='URLExample'> ");
            out.println("Login <input type='text' name='login' />");
            out.println("Password <input type='text' name='password' />");
            out.println("<input type='submit' />");
            out.println("</form>");
        }

        if (loggedIn != null)
            out.println("<li><a href='URLExample?loggedIn=true&numTimes=" + nTimes + "'>Count</a></li> ");
        else
            out.println("<li><a href='URLExample'>Count</a></li> ");

        out.println("</body>");
        out.println("</html>");
    }
}
```

URLLogout.java

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class URLLogout extends HttpServlet {
    public void doGet(HttpServletRequest request, HttpServletResponse response)
        throws IOException, ServletException
    {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        out.println("<head><title>Simple URL Rewriting Example</title></head>");
        out.println("<body>");
        out.println("<h1>A Simple URL Rewriting Example</h1>");
        out.println("Thanks for visiting, please come again.");

        out.println("<li><a href='URLExample'>Count</a></li> ");

        out.println("</body>");
        out.println("</html>");
    }
}
```

SessionExample.java

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class SessionExample extends HttpServlet {
    public void doGet(HttpServletRequest request, HttpServletResponse response) throws IOException, ServletException {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        HttpSession session = request.getSession();
        String loggedIn = (String)session.getAttribute("loggedIn");
        Integer numTimes = (Integer)session.getAttribute("numTimes");
        String login = null;
        int nTimes = 1;

        if (numTimes != null)
            nTimes = numTimes.intValue() + 1;

        if (loggedIn == null) {
            login = request.getParameter("login");
            String pass = request.getParameter("password");

            if (login != null && login.compareTo("hello") == 0 && pass != null && pass.compareTo("world") == 0)
                loggedIn = "true";
        }

        out.println("<head><title>Simple Session Example</title></head>");
        out.println("<body>");
        out.println("<h1>A Simple Session Example</h1>");

        if (loggedIn != null) {
            session.setAttribute("loggedIn", loggedIn);
            session.setAttribute("numTimes", new Integer(nTimes));

            out.println("You have visited this page " + nTimes + " times.");
            out.println("<li><a href='SessionLogout'>Logout</a></li>");
        }
        else {
            if (login != null)
                out.println("Login failed! Try again. <br>");
            out.println("<form action='SessionExample' >");
            out.println("Login <input type='text' name='login' />");
            out.println("Password <input type='text' name='password' />");
            out.println("<input type='submit' />");
            out.println("</form>");
        }
        out.println("<li><a href=''>");
        out.print(response.encodeURL("SessionExample"));
        out.print(">Count</a></li>");
        out.println("</body>");
        out.println("</html>");
    }
}
```

SessionLogout.java

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class SessionLogout extends HttpServlet {
    public void doGet(HttpServletRequest request, HttpServletResponse response)
        throws IOException, ServletException{
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        HttpSession session = request.getSession();
        session.invalidate();

        out.println("<head><title>Simple Cookie Example</title></head>");
        out.println("<body>");
        out.println("<h1>A Simple Cookie Example</h1>");
        out.println("Thanks for visiting, please come again.");
        out.println("<a href='SessionExample'>Count</a>");
        out.println("</body>");
        out.println("</html>");
    }
}
```

ServletContextExample.java

```
import java.io.*;
import java.lang.Integer;
import javax.servlet.*;
import javax.servlet.http.*;

public class Counter extends HttpServlet {
    public void init() {
        this.getServletContext().setAttribute("counter", new Integer(0));
    }

    public void doGet(HttpServletRequest request, HttpServletResponse response)
        throws IOException, ServletException
    {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        out.println("<html>");
        out.println("<head>");
        out.println("<title>Counter</title>");
        out.println("</head>");
        out.println("<body>");

        int totalcalls = ((Integer)this.getServletContext().getAttribute("counter")).intValue() + 1;

        this.getServletContext().setAttribute("counter", new Integer(totalcalls));

        int usercounter = 1;

        if(request.getSession().getAttribute("usercounter") != null)
            usercounter = ((Integer)request.getSession().getAttribute("usercounter")).intValue() + 1;

        request.getSession().setAttribute("usercounter", new Integer(usercounter));

        String sID = request.getSession().getId();

        out.println("Servlet has been called " + totalcalls + " times. <br />");

        out.println("User " + sID + " has called servlet " + usercounter + " time.");

        request.getSession().setAttribute("counter");

        out.println("</body>");
        out.println("</html>");
    }
}
```