

## Perl & HTTP Cookies

### Programming Examples

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1

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## CGI.pm Cookie Support

- The Perl CGI module provides a function that returns cookie values:

```
$x = cookie("cookieName");
```

- The function is similar to `param()`, but you give it a cookie name and it returns a cookie value.

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2

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## Finding All Cookies Sent

```
@cookieNames = cookie();
```

- Sets `@cookieNames` to the names of all cookies sent.
- Usually we know the name of the cookie(s) we are looking for...

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3

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## Generic Cookie CGI

- Displays a list of all cookies received.
- Allows the user to create a cookie
  - fills out a form that includes the new cookie name and value.

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4

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## Display All Cookies Received

```
# get the names of all the cookies sent
@cookieNames = cookie();

print "<TABLE BORDER=1>\n";
print "<TR><TH>Cookie Name</TH>" .
      "<TH>Cookie Value</TH></TR>\n";

foreach $i (@cookieNames) {
    $cookieValue = cookie($i);
    print "<TR><TD>$i</TD>" .
          "<TD>$cookieValue</TD></TR>\n";
}

print "</TABLE>\n";
```

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5

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## New Cookie Form

```
# create a form that can be submitted that tells
# us to create a new cookie

print<<EOFRM;
<FORM ACTION="showcookies.cgi" METHOD=GET>
Name: <INPUT TYPE=TEXT NAME=cname SIZE=10><BR>
Value: <INPUT TYPE=TEXT NAME=cval SIZE=10><BR>
<INPUT TYPE=SUBMIT VALUE="Create a Cookie">
</FORM>
EOFRM
```

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6

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## Creating the new cookie

- Check for the form field name `cname`.
  - print out Set-cookie header.
  - Cookie name is `param("cname")`;
  - Cookie value is `param("cval")`;
- Must come before the end of the headers!

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7

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## Code to Create Cookie

```
# See if this request wants us to create a
#   new cookie

if (param("cname")) {
  # get the name and value specified by the user
  $cname = param("cname");
  $cval = param("cval");

  # create the cookie (create HTTP header)
  print "Set-cookie: $cname=$cval;\n";
}
```

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8

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## Putting it all together

- The order is important!
  - need to decide whether to create a new cookie (and print Set-cookie header) before everything else!
  - Must also send Content-type header and blank line.
    - only then can we send HTML content...

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9

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## Code Overview

1. check for form field cname, if not empty create the cookie.
2. send HTTP Content-type header
3. Send cookie creation form.
4. Send list of cookie names and values.
  - this list will not include the new cookie!

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10

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## Cookie Values

- It is often useful to store multiple values in a single cookie.
- Cookies are just text strings, you can put whatever you want in them.
  - you just need to extract the values later when the cookie is sent back.

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11

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## Using `join()` and `split()`

- The perl functions `join()` and `split()` make it easy to
  - build strings that hold multiple values
  - extract multiple values from a string.
- For example, the string:  
`"82 45 13.7 joe"`
  - holds the values 82, 45, 13.7 and joe

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12

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## join()

- Create a single string that holds all the values from a Perl array (or list).
- You specify the "glue" string that is inserted between each element of the list.

```
$x = join(" ", (82,45,13.7,"joe"));
```

*glue*      *list*

- `$x` is now `"82 45 13.7 joe"`

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13

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## split()

- `split()` does the reverse, it create a list from a string given a delimiter.
  - the delimiter is what was used as the "glue"

```
@foo = split(" ", "82 45 13.7 joe");
```

- now `foo` is `(82,45,13.7,"joe")`

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14

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## Possible Use of split and join

- Have an array of values you want to save in a cookie.

```
$cookievalue = join(" ",@thelist);
```

- When cookie is received, extract the values with:

```
@thelist = split(" ",$cookievalue);
```

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15

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## Possible Problems

- Make sure the "glue"/delimiter is not in any of the individual values:

```
(82, 25, "Joe Smith")
```

- You can use anything as the glue/delimiter, not just " ".

```
$cookievalue = join(":",@thelist);
```

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16

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