

Prototype

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- Many slides are created from the contents posted in website by Sergio Pereira with author's permission
 - > www.sergiopereira.com/articles/prototype.js.html

Agenda

- What is Prototype?
- Utility functions
- Form and Element classes
- Ajax.Request

What is Prototype?

What is Prototype?

- JavaScript library written by Sam Stephenson
 - > prototype.js
 - > <http://prototype.conio.net>
- Supports utility JavaScript functions including AJAX utility function - `Ajax.Request`
 - > `$()` - same as `document.getElementById('someid')`;
 - > `$F()` - working with Forms
 - > `$R()`

Utility Functions

\$() function

- Same as `document.getElementById()`

```
var d = $('#myDiv');
```

- You can pass more than one id and `$()` will return an array object with all the requested elements

- > Useful when you modify multiple elements

```
// Get elements into an array via $()
```

```
var divs = $('#myDiv','myOtherDiv');
```

```
// Display child node of the each item in the array
```

```
for(i=0; i<divs.length; i++){  
    alert(divs[i].innerHTML);
```

```
}
```

\$F() function

- Used to get a value of an element (input form field element)

```
var username = $F('userName')
```

```
...
```

```
<input type="text" id="userName" value="Joe Doe"><br>
```

- It works with on any input field
 - > text
 - > checkbox
 - > button

\$A() function

- Converts the single argument it receives into an Array object

```
<script>
function showOptions(){
    var someNodeList = $('lstEmployees').getElementsByName('option');
    var nodes = $A(someNodeList);

    nodes.each(function(node){
        alert(node.nodeName + ': ' + node.innerHTML);
    });
}
</script>
```

```
<select id="lstEmployees" size="10" >
<option value="5">Buchanan, Steven</option>
<option value="8">Callahan, Laura</option>
</select>
```

```
<input type="button" value="Show the options" onclick="showOptions();" >
```

\$H() function

- Converts objects into enumerable Hash objects

```
<script>
function testHash()
{
    //let's create the object
    var a = {
        first: 10,
        second: 20,
        third: 30
    };

    //now transform it into a hash
    var h = $H(a);
    alert(h.toString()); //displays: first=10&second=20&third=30
}
</script>
```

\$R() function

- A short hand to writing new ObjectRange (lowerBound, upperBound, excludeBounds)

```
<script>
  function demoDollar_R(){
    var range = $R(10, 20, false);
    range.each(function(value, index){
      alert(value);
    });
  }

```

```
</script>
```

```
<input type="button" value="Sample Count" onclick="demoDollar_R();" >
```

Form and Element Classes

Form Class

- `getElements(form)`
 - > Return all elements of the form as an array
- `getInputs(form, typeName, name)`
 - > Returns all the input elements from a form filtering out results by element type or element name
- `disable(form)`
 - > Gets every element of the form, fires the blur event, and sets the disabled attribute to true for every element
- `enable(form)`
 - > Gets every element of the form, fires the blur event, and sets the disabled attribute to false for every element

Form Class

- `focusFirstElement(form)`
 - > Places the focus on the first non-hidden, non-disabled form field
- `reset(form)`
 - > Calls `reset` on the form element
- `serialize(form)`
 - > Formats a string for posting the form to the server via AJAX in the form of `elementname1=value1&elementname2=value2`

Element Class - CSS Style

- `addClassName(element, className)`
 - > Adds the given class name to the element's class names
- `classNames(element)`
 - > Returns an `Element.ClassNames` object representing the CSS class names associated with the given element
- `setStyle(element, cssPropertyHash)`
 - > Sets the value of the CSS properties in the given element, according to the values in the `cssPropertyHash` argument.
- `getStyle(element, cssProperty)`
 - > Returns the value of the CSS property in the given element or null if not present.

Element Class - Visibility

- `hide(elem1 [, elem2 [, elem3 [...]]])`
 - > Hides each element by setting its `style.display` to `'none'`
- `show(elem1 [, elem2 [, elem3 [...]]])`
 - > Shows each element by resetting its `style.display` to `''`
- `toggle(elem1 [, elem2 [, elem3 [...]]])`
 - > Toggles the visibility of each passed element.
- `scrollTo(element)`
 - > Scrolls the window to the element position

Element Class

- `remove(element)`
 - > Removes the element from the document
- `update(element, html)`
 - > Replaces the inner html of the element with the given html argument

Ajax.Request()

Ajax.Request

- Handles XMLHttpRequest handling

```
// Use Prototype's Ajax.Request for remoting
var url = 'http://localhost:8084/ajax-validation-prototype/validate';
var pars = "action=create&" + "id=" + escape(target.value);

var myAjax = new Ajax.Request(
    url,
    // AJAX options
    {
        method: 'get',          // HTTP method
        parameters: pars,      // Parameters
        onComplete: processRequest // Callback function
    }
);
```

AJAX Options in Ajax.Request call

- **method: 'post'**
 - > Method of the HTTP request, default is 'post'
- **parameters**
 - > The url-formatted list of values passed to the request
- **postBody**
 - > Content passed to in the request's body in case of a HTTP POST
- **on<event>: Function(XMLHttpRequest, Object)**
 - > Custom function to be called when the respective event/status is reached during the AJAX call.

AJAX Options in Ajax.Request call

- onException: Function(Ajax.Request, exception)
 - > Custom function to be called when an exceptional condition happens on the client side of the AJAX call, like an invalid response or invalid arguments

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