How to Create a Stock Widget using Webservices

Introduction

We are going to fetch Stock Symbol information from a Webservice and display it on the screen in this article. Figure 1.0 is the activity diagram for the widget.

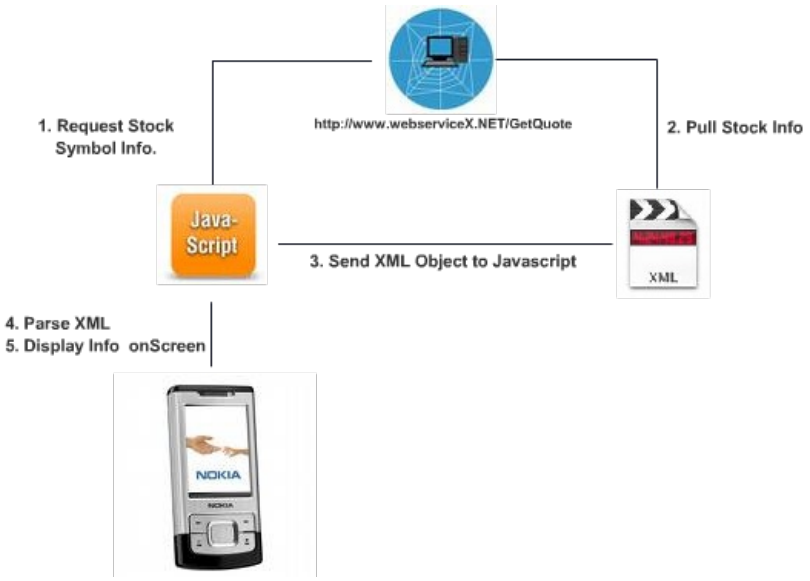

Figure 1.0

Creating HTML/Form Elements

```
<body bgcolor="#ffffff">
<form name="htmlForm" method="POST" action="javascript:formSend();">
Enter Stock Symbol:<br />
<input type="text" name="sendField" value="" /><br />
<input type="submit" value="Send" /><br />
<br />
Stock Details:<br />
<p><b>Name: </b><span id="name"></span><br />
<b>Current: </b><span id="current"></span><br />
<b>Change: </b><span id="change"></span><br />
</body>
```

Creation of the Form is straight forward. However, the important thing to notice is usage of **<Span>** tag instead of **<Div>** tag. Every **<Span>** tag is assigned an ID. We will use this ID to place the data later.The **<Span>** tag and ** ** tag serves the same purpose only that **<Div>** tag adds a line break whereas **<Span>** tag puts the results on the same *line* which is our requirement for this widget.

CSS - Style Sheet

```
body {
  background-color: rgb(0, 120, 0);
}


#name {
  font-size: 0.8em;
  color: Black;
}
```


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```
#current {
  font-size: 0.8em;
  color: Black;
}

#change {
  font-size: 0.8em;
  color: Black;
}
```

Accessing Webservice and Retrieving Data (Javascript)

```
var xmlhttp;
function formSend() {
  xmlhttp=null;
  if (window.XMLHttpRequest)
  {// code for IE7, Firefox, Mozilla, etc.
  xmlhttp=new XMLHttpRequest();
  }
  else if (window.ActiveXObject)
  {// code for IE5, IE6
  xmlhttp=new ActiveXObject("Microsoft.XMLHTTP");
  }
  if (xmlhttp!=null)
  {
        var httpReq = null;
        httpReq = new XMLHttpRequest();
        httpReq.open("GET", "http://www.webservicex.net/stockquote.asmx/GetQuote?
symbol="+document.htmlForm.sendField.value, true);
        httpReq.send(null);

        httpReq.onreadystatechange = function()
        {//Call a function when the state changes.
          if(httpReq.readyState == 4)
          {
      if(httpReq.status==200)
             {
         //Server response - responseXML -> XML, responseText -> Text
  var response = httpReq.responseText;
                //String manipulation
  var temp = response.indexOf("Symbol&gt;");      //location of <Symbol>
  var temp2 = response.indexOf("&lt;/Symbol"); //Location of </Symbol>
  var str = response.substr(temp+10,temp2-temp-10);//<Symbol>?</Symbol>
  document.getElementById('name').innerHTML = str;

  temp = response.indexOf("Last&gt;");             //Location of <Last>
  temp2 =response.indexOf("&lt;/Last");            //Location of </Last>
  str = response.substr(temp+8,temp2-temp-8);      //<Last>?</Last>
  document.getElementById('current').innerHTML = str;

  temp = response.indexOf("Change&gt;");           //Location of <Change>
  temp2 =response.indexOf("&lt;/Change");          //Location of </Change>
  str = response.substr(temp+10,temp2-temp-10);    //<Change>?</Change>
  document.getElementById('change').innerHTML = str;
              }
```


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```
            else
            {
        alert("Error - Server May be Down" );
     }
           }
         }
    }
    else
    {
      alert("Your browser does not support XMLHTTP.");
    }
 }
```

XMLHttpREquest (XHR) is an **API** that can be used by JavaScript and other web browser scripting languages to transfer XML and other text data between a web server and a browser. Though it can do synchronous fetches, it is almost always asynchronous, due to the greater UI responsiveness. Besides XML, XMLHttpRequest can be used to fetch data in other formats such as HTML, JSON or Plain text. For demonstration purpose data is retrieved as Plain text to show string manipulation capabilities in Javascript.

ID in the document.GetElementById('**ID'**).innerHTML is used for placement of information in specific place within HTML. We use **ID** for data placement.

Final Output

Source Code Download

The source code files are available for download: Media:StockWidget.zip

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