

08. AJAX XML Applications.

8.1. AJAX XML

This chapter demonstrates some HTML applications using XML, HTTP, DOM, and JavaScript. In this chapter we will use the XML file called "cd_catalog.xml".

Example: XML file.

```
<?xml version="1.0" encoding="UTF-8"?>
<CATALOG>
  <CD>
    <TITLE>Empire Burlesque</TITLE>
    <ARTIST>Bob Dylan</ARTIST>
    <COUNTRY>USA</COUNTRY>
    <COMPANY>Columbia</COMPANY>
    <PRICE>10.90</PRICE>
    <YEAR>1985</YEAR>
  </CD>
  <CD>
    <TITLE>Hide your heart</TITLE>
    <ARTIST>Bonnie Tyler</ARTIST>
    <COUNTRY>UK</COUNTRY>
    <COMPANY>CBS Records</COMPANY>
    <PRICE>9.90</PRICE>
    <YEAR>1988</YEAR>
  </CD>
  <CD>
    <TITLE>Greatest Hits</TITLE>
    <ARTIST>Dolly Parton</ARTIST>
    <COUNTRY>USA</COUNTRY>
    <COMPANY>RCA</COMPANY>
    <PRICE>9.90</PRICE>
    <YEAR>1982</YEAR>
  </CD>
  ...
</CATALOG>
```

8.2. Display XML Data in an HTML Table

This example loops through each <CD> element, and displays the values of the <ARTIST> and the <TITLE> elements in an HTML table:

Example:

```
<html>
<head>
<style>
table, th, td {
  border: 1px solid black;
  border-collapse: collapse;
}
th, td {
  padding: 5px;
}
</style>
</head>
<body>

<table id="demo"></table>

<script>
function loadXMLDoc() {
  var xmlhttp = new XMLHttpRequest();
  xmlhttp.onreadystatechange = function() {
    if (this.readyState == 4 && this.status == 200) {
      myFunction(this);
    }
  };
  xmlhttp.open("GET", "cd_catalog.xml", true);
  xmlhttp.send();
}
function myFunction(xml) {
  var i;
  var xmlDoc = xml.responseXML;
  var table="<tr><th>Artist</th><th>Title</th></tr>";
  var x = xmlDoc.getElementsByTagName("CD");
  for (i = 0; i <x.length; i++) {
    table += "<tr><td>" +
      x[i].getElementsByTagName("ARTIST")[0].childNodes[0].nodeValue
+
      "</td><td>" +
      x[i].getElementsByTagName("TITLE")[0].childNodes[0].nodeValue +
      "</td></tr>";
  }
  document.getElementById("demo").innerHTML = table;
}
```

```
</script>

</body>
</html>
```

For more information about using JavaScript and the XML DOM, go to DOM Intro.

8.3. Display the First CD in an HTML div Element

This example uses a function to display the first CD element in an HTML element with id="showCD":

Example:

```
displayCD(0);

function displayCD(i) {
    var xmlhttp = new XMLHttpRequest();
    xmlhttp.onreadystatechange = function() {
        if (this.readyState == 4 && this.status == 200) {
            myFunction(this, i);
        }
    };
    xmlhttp.open("GET", "cd_catalog.xml", true);
    xmlhttp.send();
}

function myFunction(xml, i) {
    var xmlDoc = xml.responseXML;
    x = xmlDoc.getElementsByTagName("CD");
    document.getElementById("showCD").innerHTML =
    "Artist: " +
    x[i].getElementsByTagName("ARTIST")[0].childNodes[0].nodeValue
+
    "<br>Title: " +
    x[i].getElementsByTagName("TITLE")[0].childNodes[0].nodeValue +
    "<br>Year: " +
    x[i].getElementsByTagName("YEAR")[0].childNodes[0].nodeValue;
}
```

8.4. Navigate Between the CDs

To navigate between the CDs, in the example above, add a next() and previous() function:

Example:

```
function next() {
    // display the next CD, unless you are on the last CD
    if (i < len-1) {
        i++;
        displayCD(i);
    }
}

function previous() {
    // display the previous CD, unless you are on the first CD
    if (i > 0) {
        i--;
        displayCD(i);
    }
}
```

8.5. Show Album Information When Clicking On a CD

The last example shows how you can show album information when the user clicks on a CD:

Example:

```
<!DOCTYPE html>
<html>
<style>
table,th,td {
    border : 1px solid black;
    border-collapse: collapse;
}
th,td {
    padding: 5px;
}
</style>
<body>

<p>Click on a CD to display album information.</p>
<p id='showCD'></p>
<table id="demo"></table>

<script>
var x,xmlhttp,xmlDoc
xmlhttp = new XMLHttpRequest();
xmlhttp.open("GET", "cd_catalog.xml", false);
xmlhttp.send();
xmlDoc = xmlhttp.responseXML;
```

```
x = xmlDoc.getElementsByTagName("CD");
table="<tr><th>Artist</th><th>Title</th></tr>";
for (i = 0; i <x.length; i++) {
    table += "<tr onclick='displayCD(" + i + ")'><td>";
    table += x[i].getElementsByTagName("ARTIST")
[0].childNodes[0].nodeValue;
    table += "</td><td>";
    table += x[i].getElementsByTagName("TITLE")
[0].childNodes[0].nodeValue;
    table += "</td></tr>";
}
document.getElementById("demo").innerHTML = table;

function displayCD(i) {
    document.getElementById("showCD").innerHTML =
    "Artist: " +
    x[i].getElementsByTagName("ARTIST") [0].childNodes[0].nodeValue +
    "<br>Title: " +
    x[i].getElementsByTagName("TITLE") [0].childNodes[0].nodeValue +
    "<br>Year: " +
    x[i].getElementsByTagName("YEAR") [0].childNodes[0].nodeValue;
}
</script>

</body>
</html>
```