

XMLHttpRequest모듈만들기

js/httpRequest.js

```
// XMLHttpRequest객체생성function
function getXMLHttpRequest(){
    if(window.ActiveXObject){
        try{
            return new ActiveXObject("Msxml2.XMLHTTP");
        }catch(e){
            try{
                return new ActiveXObject("Microsoft.XMLHTTP");
            }catch(e1){
                return null;
            }
        }
    }
    if(window.XMLHttpRequest){
        return new XMLHttpRequest();
    }else{
        return null;
    }
}

// Ajax요청 function
var xhr=null;
function sendRequest(url,params,callback,method){
    xhr=getXMLHttpRequest();
    var httpMethod = method ? method : 'GET';
    if(httpMethod!='GET' && httpMethod!='POST'){
        httpMethod='GET';
    }
    var httpParams=(params==null||params=='') ? null:params;
    var httpUrl=url;
    if(httpMethod=='GET' && httpParams!=null){
        httpUrl=httpUrl+"?" +params;
    }
    xhr.open(httpMethod,httpUrl,true);
    xhr.setRequestHeader("Content-Type",
        "application/x-www-form-urlencoded");
    xhr.onreadystatechange = callback;
    httpParams= httpMethod=='POST' ? httpParams:null;
    xhr.send(httpParams);
}
```

helloApp.html

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="ko" lang="ko">
<head>
    <meta http-equiv="content-type" content="text/html;
charset=euc-kr" />
    <title>안녕하세요!</title>
    <script type="text/javascript" src="httpRequest.js"></script>
    <script type="text/javascript">
        function helloToServer() {
            var params =
"name="+encodeURIComponent(document.f.name.value);
            sendRequest("helloApp_ok.jsp", params, helloFromServer,
"POST");
        }
        function helloFromServer() {
            if (xhr.readyState == 4) {
                if (xhr.status == 200) {
                    alert("서버응답:"+xhr.responseText);
                }
            }
        }
    </script>
</head>
<body>
<form name="f">
<input type="text" name="name" />
<input type="button" value="입력" onclick="helloToServer()" />
</form>
</body>
</html>
```

helloApp_ok.jsp

```
<%@ page contentType="text/plain; charset=euc-kr" %>
<%
    request.setCharacterEncoding("utf-8");
    String name = request.getParameter("name");
%>
안녕하세요, <%= name %> 회원님!
```

4.innerHTML을 이용한 화면 동적변경

XMLHttpRequest 객체를 사용하는 프로그램은 크게 다음의 두가지 코드로 구성된다.

- 사용자가 이벤트를 발생시키면 웹서버에 데이터를 전송한다.
- 웹서버가 생성한 응답결과를 바탕으로 화면을 조작한다.

응답결과를 바탕으로 브라우저의화면을 조작하는 방법은
다음두가지 방법중하나를 선택한다.

- HTML 요소의 innerHTML 속성에 HTML 코드 지정하기
- DOM(Documents Object Model)사용하기

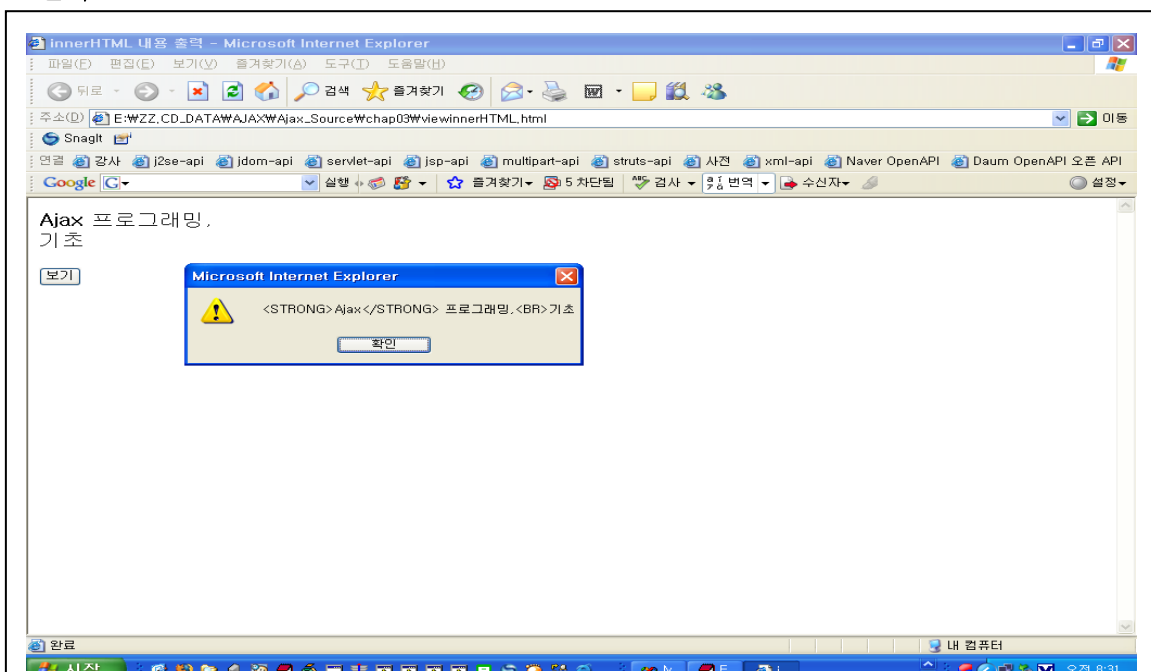
이장에서는 innerHTML속성을 사용해서 화면을 조작하는 방법을 알아보자.

①inner HTML 속성을 사용하는 기본코드

viewInnerHTML.html

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="ko" lang="ko">
<head>
    <meta http-equiv="content-type" content="text/html;
charset=euc-kr" />
    <title>innerHTML 내용 출력</title>
    <script type="text/javascript">
        function view() {
            var p1 = document.getElementById("p1");
            alert(p1.innerHTML);
        }
    </script>
</head><body>
<p id="p1"><strong>Ajax</strong> 프로그래밍,<br/>기초</p>
<input type="button" value="보기" onclick="view()" />
</body>
</html>
```

결과

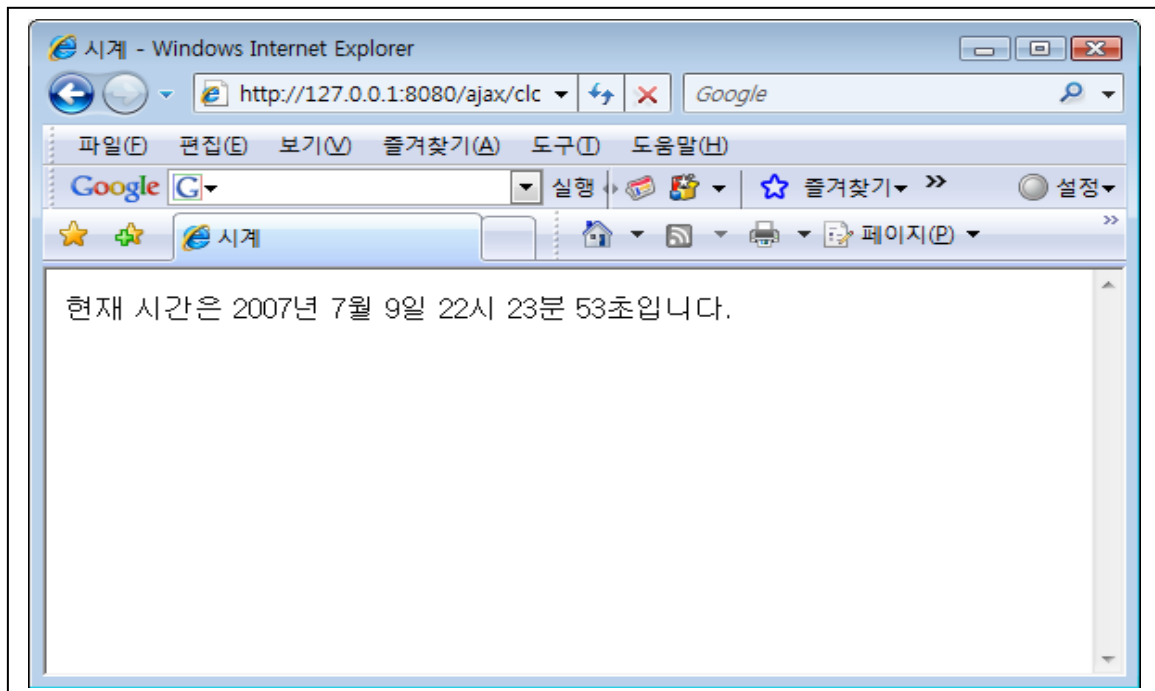


② 1초마다 현재시간출력

clock.html

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="ko" lang="ko">
<head>
    <meta http-equiv="content-type" content="text/html;
charset=euc-kr" />
    <title>시계</title>
    <script type="text/javascript">
        function printTime() {
            var clock = document.getElementById("clock");
            var now = new Date();
            clock.innerHTML =
                now.getFullYear() + "년 " +
                (now.getMonth()+1) + "월 " +
                now.getDate() + "일 " +
                now.getHours() + "시 " +
                now.getMinutes() + "분 " +
                now.getSeconds() + "초";
            setTimeout("printTime()", 1000);
        }
        window.onload = function() {
            printTime();
        }
    </script>
</head>
<body>
    현재 시간은 <span id="clock"></span> 입니다.
</body>
</html>
```

결과



③ 웹서버 응답텍스트로 생성한 HTML결과를 innerHTML로 사용하여 반영 newsTitle.jsp

```
<%@ page contentType="text/plain; charset=euc-kr"%>
<%String[] titles = { "서울 지하철 객차 안에 CCTV 설치 '논란',
                      "이순을 지나 '야구의 신' 된 김성근 감독", "특목고 폐지
유보...'차기 정부 눈치 보기' 논란" };

    for (int i = 0; i < titles.length; i++) {
        out.print("<li>");
        if (i == 0) {
            out.print("<strong>");
        }
        out.print(titles[i]);
        if (i == 0) {
            out.print("</strong>");
        }
    }

%>
```

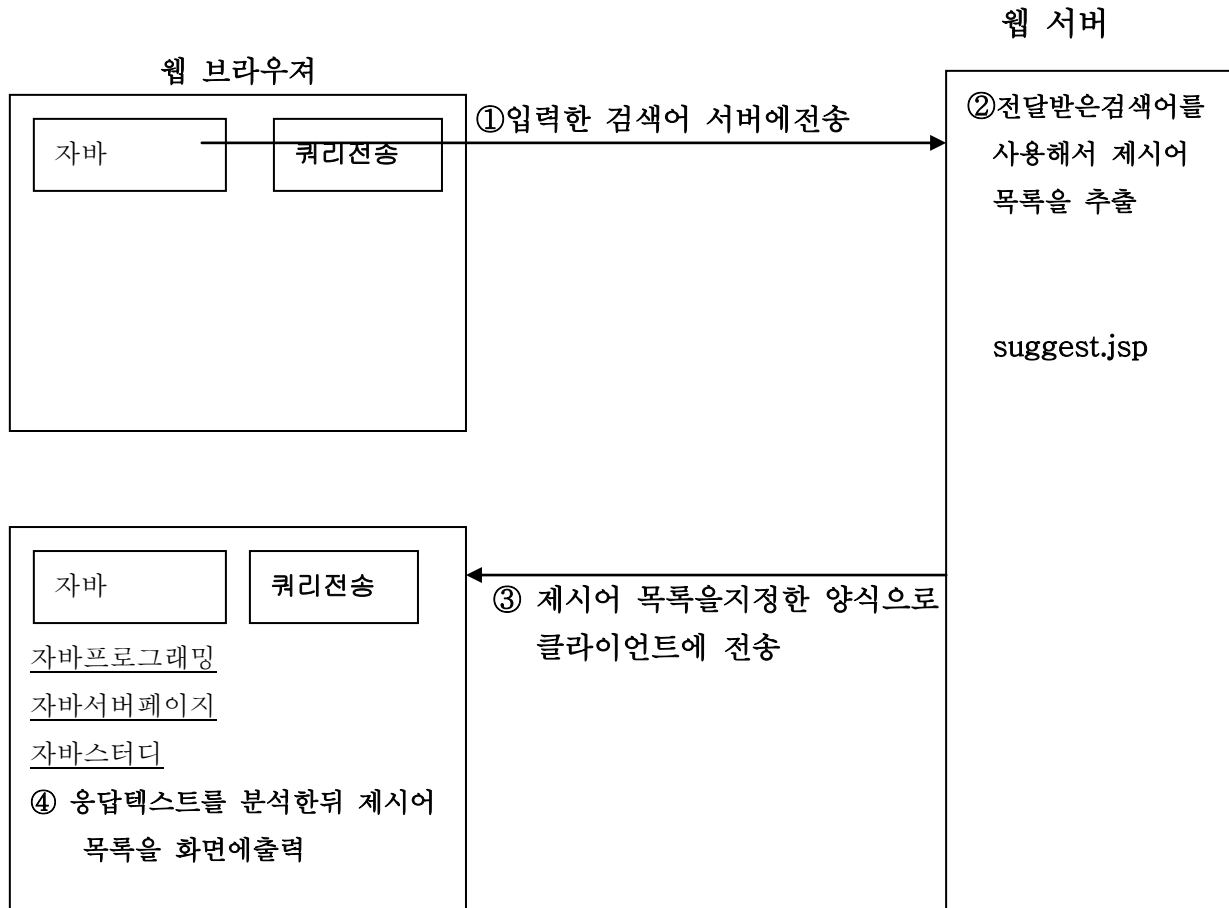
```
for (int i = 0 ; i <
titles.length ; i++) {
    out.print(titles[i]);
    if(i<titles.length-1){
        out.print(",");
    }
}
```

news.html

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="ko" lang="ko">
<head> <meta http-equiv="content-type" content="text/html;
charset=euc-kr" /><title>뉴스</title>
<script type="text/javascript" src="js/httpRequest.js"></script>
    <script type="text/javascript">
        function loadList() {
            sendRequest("getNewsTitlesCSV.jsp", null, loadedList, "GET");
        }
        function loadedList() {
            if (httpRequest.readyState == 4) {
                if (httpRequest.status == 200) {
                    var csvStr = httpRequest.responseText;
                    // 콤마로 읽어온 값을 분리
                    var newsTitleStrs = csvStr.split(",");
                    var html='';
                    for (var i=0;i< newsTitleStrs.length;i++)
{
                        if(i==0){
                            html=html+"<li><strong>"+newsTitleStrs[i]+"</strong>";
                        }else{
                            html=html+"<li>"+newsTitleStrs[i];
                        }
                    }
                    var news = document.getElementById("newsList");
                    news.innerHTML = html;
                } else {
                    alert(httpRequest.status);
                }
            }
            window.onload = function() {
                loadList();
            }
        }
    </script></head><body>
뉴스들 <hr>
<span id="newsList"></span>
</body>
</html>
```

4. 제시어기능구현하기

4-1.제시어 기능흐름



suggest.jsp

```
<%@ page contentType="text/plain; charset=euc-kr"%>
<%@ page import="java.util.List"%>
<%!

    String[] keywords = {"AJAX", "AJAX 실전 프로그래밍",
                        "AJA", "AZERA", "자라자",
                        "자라", "자바 프로그래밍",
                        "자바 서버 페이지", "자바스터디",
                        "자바서비스", "자바캔"};

    public List search(String keyword) {
        if (keyword == null || keyword.equals(""))
            return java.util.Collections.EMPTY_LIST;

        keyword = keyword.toUpperCase();
        List result = new java.util.ArrayList(8);
        for (int i = 0 ; i < keywords.length ; i++ ) {
            if (((String)keywords[i]).startsWith(keyword)) {
                result.add(keywords[i]);
            }
        }
        return result;
    }
%>

<%
    request.setCharacterEncoding("utf-8");
    String keyword = request.getParameter("keyword");
    List keywordList = search(keyword);
    out.print(keywordList.size());
    out.print("|");

    for (int i = 0 ; i < keywordList.size() ; i++) {
        String key = (String)keywordList.get(i);
        out.print(key);

        if (i < keywordList.size() - 1) {
            out.print(",");
        }
    }
%>
```

suggestClient.html

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">

<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=EUC-KR">
<title>Insert title here</title>
<style type="text/css">
    .suggest{
        display: none;
        position: absolute;
        left: 11px;
        top: 131px;
    }
</style>
<script type="text/javascript" src="js/httpRequest.js"></script>
<script type="text/javascript">
    function sendKeyword(){
        var keyword = document.search.keyword.value;
        if(keyword==""){
            hide('suggest');
            return;
        }
        var params = "keyword="+keyword
        sendRequest("suggest.jsp",params,displaySuggest,"POST");
    }

    function displaySuggest(){
        if(httpRequest.readyState==4){
            if(httpRequest.status==200){
                var resultText=httpRequest.responseText;
                // 4|ajax,aja,aa,AAAA
                var resultArray = resultText.split("|");
                var count = parseInt(resultArray[0]);
                var keywordList=null;
            }
        }
    }
</script>
```

suggestclient.html 계속

```
if(count>0){

    keywordList = resultArray[1].split(",");

    var html="";

    for(var i=0;i<keywordList.length;i++){

        html+="
```

suggestclient.html 계속

```
window.onload=function(){
    hide("suggest");

};

</script>
</head>
<body>
<h1>제시어</h1>
<hr/>
<form name="search">
    <input type="text" name="keyword" onkeyup="sendKeyword();" >
    <input type="button" value="검색">
    <div id="suggest" class="suggest">
        <div id="suggestList">
            <a href="javascript:select('자바바');">자바바</a><br/>
            <a href="">자바라</a><br/>
            <a href="">자자</a><br/>
        </div>
    </div>
</form>
</body>
</html>
```

결과

