

```

1 Ajax and jQuery
2 1. $.ajax()
3     1)가장 기본적이고, 가장 많이 사용하는 함수
4
5     2)Syntax
6         $.ajax(options);
7         $.ajax(url, options);
8
9     3)example
10        $.ajax('data.html', {
11            success : function(data) {}
12        });
13
14    4)options
15        -async : Boolean : 동기, 비동기 여부 지정
16        -complete(xhr, status) : Function : Ajax 완료 event listener 지정
17        -data : Object, String : 요청 매개변수 지정
18        -error(xhr, status, error) : Function : Ajax 실패 event listener 지정
19        -jsonp : String : JSONP 매개변수 이름 지정
20        -jsonpCallback : String, Function : JSONP callback 함수 이름 지정
21        -success(data, status, xhr) : Function, Array : Ajax 성공 event listener 지정
22        -timeout : Number : 만료 시간 지정
23        -type : String : 'GET', 'POST' 지정
24        -url : String : 대상 URL 지정
25
26    [ajaxWithjQuery.html]
27    <!DOCTYPE html>
28    <html>
29        <head>
30            <meta charset="utf-8" />
31            <title>Ajax with jQuery</title>
32            <script src="js/jquery-3.2.1.min.js"></script>
33            <script>
34                $(document).ready(function(){
35                    $('#btnsend').click(function(){
36                        $.ajax({
37                            url : "servlet/AjaxServlet",
38                            type : "POST",
39                            data : {
40                                name : $('#name').val(),
41                                age : $('#age').val(),
42                                phone : $('#phone').val()
43                            },
44                            success : function(data){
45                                $('#resultDisplay').html(data);
46                            }
47                        });
48                    });
49                });
50            </script>
51        </head>
52        <body>
53            <form>
54                <h3>Ajax With Servlet</h3>
55                이름 : <input id="name" type="text" /><br/>
56                나이 : <input id="age" type="text" /><br/>
57                핸드폰번호 : <input id="phone" type="text" /><br/>
58                <input id="btnsend" type="button" value="Servlet 에게 요청하기" /><br/>
59            </form>
60
61            <div id="resultDisplay"></div>
62        </body>
63    </html>
64
65    [info.javaexpert.libs.HelloServlet.java]
66    package info.javaexpert.libs;
67

```

```

68 import java.io.IOException;
69 import java.io.PrintWriter;
70
71 import javax.servlet.ServletException;
72 import javax.servlet.annotation.WebServlet;
73 import javax.servlet.http.HttpServlet;
74 import javax.servlet.http.HttpServletRequest;
75 import javax.servlet.http.HttpServletResponse;
76
77 @WebServlet("/servlet/AjaxServlet")
78 public class HelloServlet extends HttpServlet {
79     protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
        ServletException, IOException {
80         this.doService(request, response);
81     }
82
83     protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
        ServletException, IOException {
84         this.doService(request, response);
85     }
86
87     protected void doService(HttpServletRequest request, HttpServletResponse response) throws
        ServletException, IOException {
88         request.setCharacterEncoding("utf-8");
89         String name = request.getParameter("name");
90         int age = Integer.parseInt(request.getParameter("age"));
91         String phone = request.getParameter("phone");
92         response.setContentType("text/html; charset=utf-8");
93         PrintWriter out = response.getWriter();
94         out.print("<b>" + name + "</b>님은 [");
95         out.print("<i>" + age + "</i>]살이고, ");
96         out.println("전화번호는 <u>" + phone + "</u>이군요.");
97         out.close();
98     }
99 }

```

100
101

102 2. \$.get()

103 1) get 방식으로 Ajax 수행

104

105 2) Syntax

106 -\$.get(url[,data][,success][,dataType])

107 -url : String

108 -data : PlainObject or String

109 -success : Function

110 -dataType : String(xml, json, script, or html)

111

112 3) Example

113 a. \$.get("test.jsp");

114 b. \$.get("test.php", { name: "John", time: "2pm" });

115 c. \$.get("test.php", function(data) {
116 alert("Data Loaded: " + data);
117 });

118 d. \$.get("test.cgi", { name: "John", time: "2pm" })
119 .done(function(data) {
120 alert("Data Loaded: " + data);
121 });

122 e. \$.get("test.php", function(data) {
123 \$("body")
124 .append("Name: " + data.name) // John
125 .append("Time: " + data.time); // 2pm
126 }, "json");

127

128 [date.jsp]

129 <%@ page language="java" contentType="text/html; charset=UTF-8" pageEncoding="UTF-8"%>

130 <%@ page import="java.util.Calendar" %>

131 <%

```
Calendar now = Calendar.getInstance();
int hour = now.get(Calendar.HOUR_OF_DAY);
int minute = now.get(Calendar.MINUTE);
int second = now.get(Calendar.SECOND);
out.println("'" + hour + " : " + minute + " : " + second);
%>

[ajaxWithjQueryGet.html]
<!DOCTYPE html>
<html>
    <head>
        <meta charset="UTF-8" />
        <title>Ajax and jQuery GET</title>
        <script src="js/jquery-3.2.1.min.js"></script>
        <script>
            $(document).ready(function(){
                $('#mytext').bind("change", function(){
                    $.get("date.jsp", function(data){
                        $('#mytime').val(data);
                    });
                });
            });
        </script>
    </head>
    <body>
        <form>
            Name : <input type="text" id="mytext" /><br /><br />
            <input type="text" id="mytime" size="30"/>
        </form>
    </body>
</html>

[idcheck.jsp]
<jsp:directive.page language="java" contentType="text/html; charset=UTF-8"
pageEncoding="UTF-8" />
<%@ taglib uri="http://java.sun.com/jsp/jstl/fmt" prefix="fmt" %>
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>

<fmt:requestEncoding value="utf-8" />
<c:set var="irum" value="${param.irum}" />
<c:out value="당신은 이름은 ${irum} 이군요." />

[ajaxWithjQueryGet1.html]
<!DOCTYPE html>
<html lang="ko">
    <head>
        <meta charset="UTF-8">
        <title>Ajax and jQuery GET</title>
        <script src="js/jquery-3.2.1.min.js"></script>
        <script>
            $(document).ready(function(){
                $("#btn").click(function(){
                    $.get("idcheck.jsp",
                        {irum : $('#irum').val()},
                        function(data){
                            alert(data);
                        }
                    );
                });
            });
        </script>
    </head>
    <body>
        Name : <input type="text" name="irum" id="irum" />&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&~
        <input type="button" id="btn" value="전송" />
    </body>
</html>
```

[illegible]

```

265 a. $( "#result" ).load( "ajax/test.html" );
266 b. $( "#result" ).load( "ajax/test.html", function() {
267     alert( "Load was performed." );
268 });
269
270 [axWithjQueryLoad.html]
271 <!DOCTYPE html>
272 <html>
273     <head>
274         <meta charset="UTF-8" />
275         <title>Ajax and jQuery Load</title>
276         <script src="js/jquery-3.2.1.min.js"></script>
277         <script>
278             $(document).ready(function(){
279                 $('#mytext').bind("change", function(){
280                     $('#targetDiv').load("date.jsp");
281                 });
282             });
283         </script>
284     </head>
285     <body>
286         <form>
287             Name : <input type="text" id="mytext" /><br /><br />
288             Now : <span id="targetDiv"></span>
289         </form>
290     </body>
291 </html>

```

5. Sever에 Parameter 전달하기

```

295 [test.jsp]
296 <%@ page language="java" contentType="text/html; charset=UTF-8" pageEncoding="UTF-8"%>
297 <%
298     String irum = request.getParameter("irum");
299     String age = request.getParameter("age");
300     String phone = request.getParameter("phone");
301
302     String msg = "<b>" + irum + "</b>님의 나이는 " +
303                 "<u>" + age + "</u>살이고, 핸드폰 번호는 " +
304                 "<i>" + phone + "</i> 입니다.";
305     out.println(msg);
306 %>

```

1) 첫번째 방법

```

309 var url = "test.jsp?irum=" + irum + "&age=" + age + "&phone=" + phone;
310 $('#targetDiv').load(url);
311
312 [ajaxWithjQueryParameter.html]
313 <!DOCTYPE html>
314 <html>
315     <head>
316         <meta charset="UTF-8">
317         <title>Ajax and jQuery</title>
318         <script src="js/jquery-1.11.1.js"></script>
319         <script>
320             $(document).ready(function(){
321                 $('#mybtn').click(function(){
322                     var irum = $('#irum').val();
323                     var age = $('#age').val();
324                     var phone = $('#phone').val();
325                     var url = "test.jsp?irum=" + irum + "&age=" + age + "&phone=" + phone;
326                     $('#targetDiv').load(url);
327                 });
328             });
329         </script>
330     </head>
331     <body>

```

```

332     Name : <input type="text" id="irum" name="irum" /><br />
333     Age : <input type="text" id="age" name="age" size="10" /><br />
334     Phone : <input type="text" id="phone" name="phone" size="40"/><br />
335     <input type="button" value="요청하기" id="mybtn" /><br />
336     <div id="targetDiv"></div>
337 </body>
338 </html>
339

```

2)두번째 방법

- \$.param() 이용하기
- 이 함수는 객체의 내용을 요청 매개변수 문자열로 생성하는 함수

[ajaxWithjQueryParameter1.html]

```

345 <!DOCTYPE html>
346 <html>
347   <head>
348     <meta charset="UTF-8">
349     <title>Ajax and jQuery</title>
350     <script src="js/jquery-1.11.1.js"></script>
351     <script>
352       $(document).ready(function(){
353         $('#mybtn').click(function(){
354           var irum = $('#irum').val();
355           var age = $('#age').val();
356           var phone = $('#phone').val();
357           var url = "test.jsp";
358           var data = { irum : irum, age : age, phone : phone };
359           var param = $.param(data);
360           $('#targetDiv').load(url, param);
361         });
362       });
363     </script>
364   </head>
365   <body>
366     Name : <input type="text" id="irum" name="irum" /><br />
367     Age : <input type="text" id="age" name="age" size="10" /><br />
368     Phone : <input type="text" id="phone" name="phone" size="40"/><br />
369     <input type="button" value="요청하기" id="mybtn" /><br />
370     <div id="targetDiv"></div>
371   </body>
372 </html>
373

```

3)세번째 방법

- var data = { irum : irum, age : age, phone : phone };
- \$('#targetDiv').load(url, data);

[ajaxWithjQueryParameter2.html]

```

379 <!DOCTYPE html>
380 <html>
381   <head>
382     <meta charset="UTF-8">
383     <title>Ajax and jQuery</title>
384     <script src="js/jquery-1.11.1.js"></script>
385     <script>
386       $(document).ready(function(){
387         $('#mybtn').click(function(){
388           var irum = $('#irum').val();
389           var age = $('#age').val();
390           var phone = $('#phone').val();
391           var url = "test.jsp";
392           var data = { irum : irum, age : age, phone : phone };
393           $('#targetDiv').load(url, data);
394         });
395       });
396     </script>
397   </head>
398   <body>

```

```

399     Name : <input type="text" id="irum" name="irum" /><br />
400     Age : <input type="text" id="age" name="age" size="10" /><br />
401     Phone : <input type="text" id="phone" name="phone" size="40"/><br />
402     <input type="button" value="요청하기" id="mybtn" /><br />
403     <div id="targetDiv"></div>
404 </body>
405 </html>
406
407 4) 4번째 방법(submit만 가능)
408     -.serialize() 사용하기
409
410 [ajaxWithjQueryParameter3.html]
411 <!DOCTYPE html>
412 <html>
413     <head>
414         <meta charset="UTF-8">
415         <title>Ajax and jQuery</title>
416         <script src="js/jquery-1.11.1.js"></script>
417         <script>
418             $(document).ready(function(){
419                 $('#myform').submit(function(){
420                     $('#targetDiv').load("test.jsp", $(this).serialize());
421                     event.preventDefault();
422                 });
423             });
424         </script>
425     </head>
426     <body>
427         <form id="myform">
428             Name : <input type="text" id="irum" name="irum" /><br />
429             Age : <input type="text" id="age" name="age" size="10" /><br />
430             Phone : <input type="text" id="phone" name="phone" size="40"/><br />
431             <input type="submit" value="요청하기" /><br />
432         </form>
433         <div id="targetDiv"></div>
434     </body>
435 </html>
436
437 5) 5번째 방법(submit만 가능)
438     -.serializeArray() 사용하기
439
440 [ajaxWithjQueryParameter4.html]
441 <!DOCTYPE html>
442 <html>
443     <head>
444         <meta charset="UTF-8">
445         <title>Ajax and jQuery</title>
446         <script src="js/jquery-1.11.1.js"></script>
447         <script>
448             $(document).ready(function(){
449                 $('#myform').submit(function(){
450                     $('#targetDiv').load("test.jsp", $(this).serializeArray());
451                     event.preventDefault();
452                 });
453             });
454         </script>
455     </head>
456     <body>
457         <form id="myform">
458             Name : <input type="text" id="irum" name="irum" /><br />
459             Age : <input type="text" id="age" name="age" size="10" /><br />
460             Phone : <input type="text" id="phone" name="phone" size="40"/><br />
461             <input type="submit" value="요청하기" /><br />
462         </form>
463         <div id="targetDiv"></div>
464     </body>
465 </html>

```

```

466
467
468 6. $.getJSON()
469 1)get 방식으로 Server로부터 JSON Data로 encoding된 Data를 loading하는 함수
470
471 2)Syntax
472 -$.getJSON(url[, data][, success])
473 -url : String
474 -data : PlainObject
475 -success : Function
476
477 [test.json]
478 {
479   "one": "Singular sensation",
480   "two": "Beady little eyes",
481   "three": "Little birds pitch by my doorstep"
482 }
483
484 [getJSON.html]
485 <!DOCTYPE html>
486 <html>
487   <head>
488     <meta charset="UTF-8">
489     <title>Insert title here</title>
490     <script src="js/jquery-1.11.1.js"></script>
491     <script>
492       $(document).ready(function(){
493         $('#mybtn').click(function(){
494           $.getJSON("test.json", function(data){
495             var str = "<table border='1'>";
496             $.each(data, function(key, val){
497               str += "<tr>";
498               str += "<td>" + key + "</td><td>" + val + "</td>";
499               str += "</tr>";
500             });
501             str += "</table>";
502             $('#targetDiv').html(str);
503           });
504         });
505       });
506     </script>
507   </head>
508   <body>
509     <input type="button" id="mybtn" value="getJSON" />
510     <div id="targetDiv"></div>
511   </body>
512 </html>
513
514
515 7. $.getScript()
516 1)get 방식으로 Server로부터 JavaScript 를 loading하고 실행하는 함수
517 2)Syntax
518 -$.getScript(url[, success])
519 -url : String
520 -success : Function
521
522 3)Example
523 $.getScript( "test.js", function( data, textStatus, jqxhr ) {
524   console.log( data ); // Data returned
525   console.log( textStatus ); // Success
526   console.log( jqxhr.status ); // 200
527   console.log( "Load was performed." );
528 });
529
530 [test.js]
531 var num1 = parseInt(prompt("Enter a First Number : "));
532 var num2 = parseInt(prompt("Enter a Second Number : "));

```



```

533     var op = prompt("Enter a operator(+,-,x,/) : ");
534     var result;
535     switch(op){
536         case '+' : result = num1 + num2; break;
537         case '-' : result = num1 - num2; break;
538         case 'x' : result = num1 * num2; break;
539         case '/' : result = num1 / num2; break;
540     }
541     alert(num1 + op + num2 + ' = ' + result);
542
543     [getScript.html]
544     <!DOCTYPE html>
545     <html>
546         <head>
547             <meta charset="UTF-8">
548             <title>Insert title here</title>
549             <script src="js/jquery-1.11.1.js"></script>
550             <script>
551                 $(document).ready(function(){
552                     $('#mybtn').click(function(){
553                         $.getScript("js/test.js");
554                     });
555                 });
556             </script>
557         </head>
558         <body>
559             <input type="button" id="mybtn" value="getJSON" />
560         </body>
561     </html>

```

562

563

564 8. \$.ajax()로 XML Data 불러오기

565 1)sungjuk_utf8.xml은 위와 같다.

566

567 2)ajaxjQueryXML.html

```

568     <!DOCTYPE html>
569     <html>
570     <head>
571         <meta charset="UTF-8">
572         <title>Ajax XML with jQuery</title>
573         <style>
574             table{
575                 margin:auto;
576                 width:600px;
577                 border-collapse : collapse;
578             }
579             th,td{
580                 border : 1px solid black;
581             }
582             th{
583                 background-color: lightgreen;
584             }
585             td{
586                 text-align:center;
587             }
588         </style>
589         <script src="js/jquery-3.2.1.min.js"></script>
590         <script>
591             $(document).ready(function(){
592                 $('#mybtn').bind("click", function(){
593                     var str = "<table><caption>성적 데이터</caption>";
594                     var thArray = ["학번", "이름", "국어", "영어", "수학", "전산"];
595                     str += "<thead><tr>";
596                     for(var i = 0 ; i < thArray.length ; i++){
597                         str += "<th>" + thArray[i] + "</th>";
598                     }
599                     str += "</tr></thead><tbody>";

```

```

600
601     $.ajax({
602         url : "sungjuk_utf8.xml",
603         dataType : "xml",
604         success : function(xml){
605             $(xml).find("student").each(function(){
606                 var trstr = "<tr>";
607                 trstr += "<td>" + $(this).attr('hakbun') + "</td>";
608                 trstr += "<td>" + $(this).find('irum').text() + "</td>";
609                 trstr += "<td>" + $(this).find('kor').text() + "</td>";
610                 trstr += "<td>" + $(this).find('eng').text() + "</td>";
611                 trstr += "<td>" + $(this).find('mat').text() + "</td>";
612                 trstr += "<td>" + $(this).find('edp').text() + "</td>";
613                 trstr += "</tr>";
614                 $('tbody').append(trstr);
615             });
616         }
617     });
618     str += "</tbody></table>";
619     $('#targetDiv').html(str);
620 });
621 });
622 </script>
623 </head>
624 <body>
625     <input type="button" id="mybtn" value="XML 데이터 수신하기" />
626     <div id="targetDiv"></div>
627 </body>
628 </html>
629
630

```

9. \$.ajax()로 JSON Data 불러오기

1)sungjuk_utf8.json은 위와 같다.

2)ajaxjQueryJSON.html

```

631 <!DOCTYPE html>
632 <html>
633 <head>
634     <meta charset="UTF-8">
635     <title>Ajax XML with jQuery</title>
636     <style>
637         table{
638             margin:auto;
639             width:600px;
640             border-collapse : collapse;
641         }
642         th,td{
643             border : 1px solid black;
644         }
645         th{
646             background-color: lightgreen;
647         }
648         td{
649             text-align:center;
650         }
651     </style>
652     <script src="js/jquery-3.2.1.min.js"></script>
653     <script>
654         $(document).ready(function(){
655             $('#mybtn').bind("click", function(){
656                 var str = "<table><caption>성적 데이터</caption>";
657                 var thArray = ["학번", "이름", "국어", "영어", "수학", "전산"];
658                 str += "<thead><tr>";
659                 for(var i = 0 ; i < thArray.length ; i++){
660                     str += "<th>" + thArray[i] + "</th>";
661                 }
662                 str += "</tr></thead><tbody>";

```

```

667 $.ajax({
668     url : "sungjuk_utf8.json",
669     dataType : "json",
670     success : function(data){
671         $(data.students).each(function(key, value){
672             var trstr = "<tr>";
673             trstr += "<td>" + value.hakbun + "</td>";
674             trstr += "<td>" + value.irum + "</td>";
675             trstr += "<td>" + value.kor + "</td>";
676             trstr += "<td>" + value.eng + "</td>";
677             trstr += "<td>" + value.mat + "</td>";
678             trstr += "<td>" + value.edp + "</td>";
679             trstr += "</tr>";
680             $('tbody').append(trstr);
681         });
682     }
683 });
684 str += "</tbody></table>";
685 $('#targetDiv').html(str);
686 });
687
688 </script>
689 </head>
690 <body>
691     <input type="button" id="mybtn" value="XML 데이터 수신하기" />
692     <div id="targetDiv"></div>
693 </body>
694 </html>

```