

9기 자기주도 PJT

CSR vs SSR



자기주도 PRJ : CSR vs SSR

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- Cymer(2006, 10 ~) 반도체 장비 모니터링 시스템 개발
- Future System(2013, 05 ~) 네트워크 보안 장비 개발
- ESTMOB(2014, 06 ~) 파일 전송 솔루션
- 프리랜서 (2017, 03 ~) 카메라 제어, 출퇴근 시스템 등 개발



CSR(Client side rendering)



- ✓ Single page application
- ✓ Java script
- ✓ Vue, React..
- ✓ View(HTML) Client(web browser) 에서 동적으로 생성

SSR(Server side rendering)



- ✓ Multi page application
- ✓ Java scrip를 제외한 대부분 Framework
- ✓ PHP, ASP, Java spring 등
- ✓ View(HTML) Server 에서 정적으로 생성

Test URL



13.124.193.201:8500/a

server side rendering : page A

13.124.193.201:8500/b

server side rendering : page B

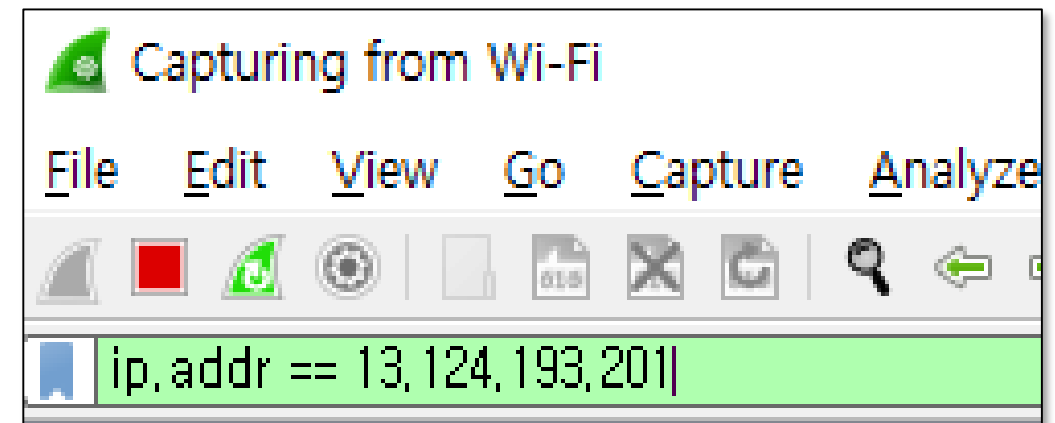
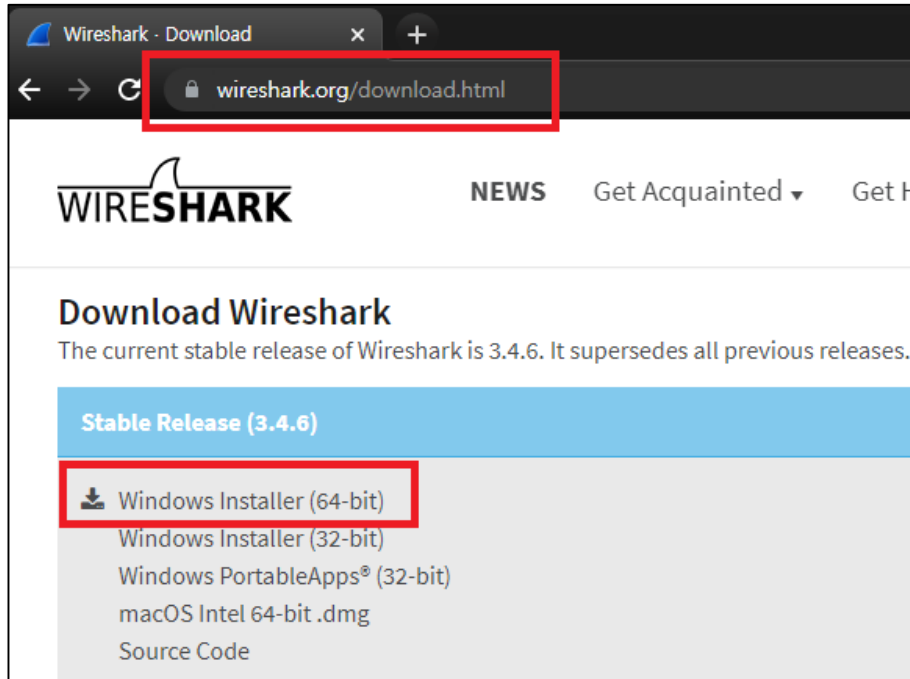
13.124.193.201:8200/a

client side rendering : page A

13.124.193.201:8200/b

client side rendering : page B

Wire shark



Wire shark



1	0.0...	192.168.219.100	13.124.193.201	TCP	54	61885 → 8200 [FIN, ACK] Seq=1 Ack=1 Win=3768 Len=0
2	0.0...	192.168.219.100	13.124.193.201	TCP	54	53547 → 8200 [FIN, ACK] Seq=1 Ack=1 Win=513 Len=0
3	0.0...	192.168.219.100	13.124.193.201	TCP	54	54632 → 8200 [FIN, ACK] Seq=1 Ack=1 Win=6387 Len=0
4	0.0...	192.168.219.100	13.124.193.201	TCP	66	60194 → 8500 [SYN] Seq=0 Win=64240 Len=0 MSS=1460 WS=
5	0.0...	13.124.193.201	192.168.219.100	TCP	54	8200 → 54632 [RST] Seq=1 Win=0 Len=0
6	0.0...	13.124.193.201	192.168.219.100	TCP	66	8500 → 60194 [SYN, ACK] Seq=0 Ack=1 Win=26883 Len=0 M
7	0.0...	13.124.193.201	192.168.219.100	TCP	54	8200 → 53547 [RST] Seq=1 Win=0 Len=0
8	0.0...	13.124.193.201	192.168.219.100	TCP	54	8200 → 61885 [RST] Seq=1 Win=0 Len=0
9	0.0...	192.168.219.100	13.124.193.201	TCP	54	60194 → 8500 [ACK] Seq=1 Ack=1 Win=131328 Len=0
10	0.0...	192.168.219.100	13.124.193.201	HTTP	551	GET /a HTTP/1.1
11	0.0...	13.124.193.201	192.168.219.100	TCP	54	8500 → 60194 [ACK] Seq=1 Ack=498 Win=28032 Len=0
12	0.0...	13.124.193.201	192.168.219.100	HTTP	364	HTTP/1.1 200 OK (text/html)
13	0.0...	192.168.219.100	13.124.193.201	TCP	54	60194 → 8500 [ACK] Seq=498 Ack=211 Win=131072 Len=0
14	3.7...	192.168.219.100	13.124.193.201	HTTP	551	GET /b HTTP/1.1
15	3.7...	13.124.193.201	192.168.219.100	HTTP	362	HTTP/1.1 200 OK (text/html)
16	3.7...	192.168.219.100	13.124.193.201	TCP	54	60194 → 8500 [ACK] Seq=995 Ack=619 Win=130560 Len=0



```
Wireshark · Packet 15 · server.pcapng

> Frame 15: 362 bytes on wire (2896 bits), 362 bytes captured (2896 bits) on interface \Device\NPF_{6CEF3232-F33C-4DD3-BCDB-7CB7E3ACBC81}, id 0
> Ethernet II, Src: Mercury_56:a0:a9 (b4:a9:4f:56:a0:a9), Dst: IntelCor_aa:89:94 (98:2c:bc:aa:89:94)
> Internet Protocol Version 4, Src: 13.124.193.201, Dst: 192.168.219.100
> Transmission Control Protocol, Src Port: 8500, Dst Port: 60194, Seq: 311, Ack: 995, Len: 308
> Hypertext Transfer Protocol
  Line-based text data: text/html (1 lines)
    <span style="color:red; font-size:40px">server side rendering : page B</span>
```



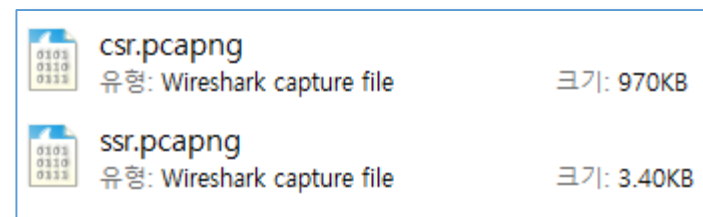
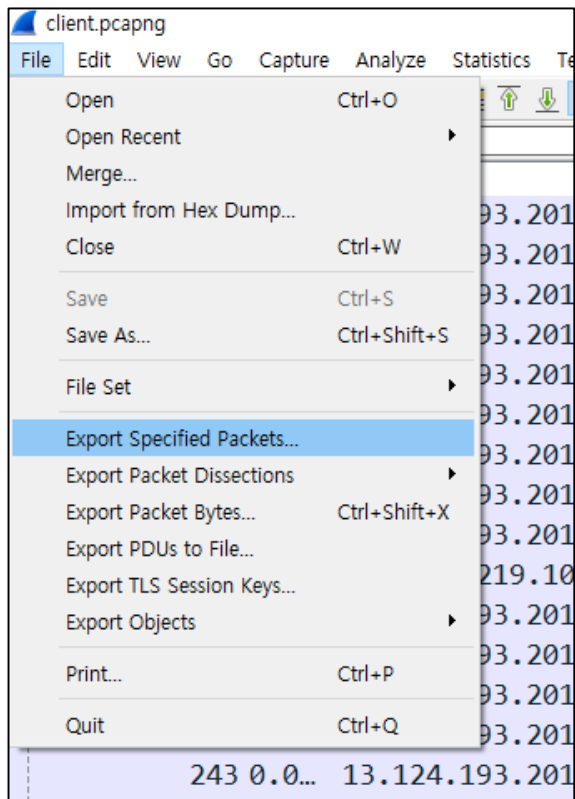

No.	Time	Source	Destination	Protocol	Length	Info
1	0.0	192.168.219.100	13.124.193.201	HTTP	551	GET /a HTTP/1.1
2	0.0	13.124.193.201	192.168.219.100	HTTP	497	HTTP/1.1 200 OK (text/html)
3	0.0	192.168.219.100	13.124.193.201	HTTP	445	GET /js/app.6029ce48.js HTTP/1.1
4	0.0	192.168.219.100	13.124.193.201	HTTP	455	GET /js/chunk-vendors.42656474.js HTTP/1.1
5	0.0	13.124.193.201	192.168.219.100	TCP	1514	8200 → 54632 [ACK] Seq=444 Ack=889 Win=328 Len=1460 [TCP segment of data flow 0x12345678]
6	0.0	13.124.193.201	192.168.219.100	HTTP	1226	HTTP/1.1 200 OK (application/javascript)
7	0.0	192.168.219.100	13.124.193.201	TCP	54	54632 → 8200 [ACK] Seq=889 Ack=3076 Win=6387 Len=0
8	0.0	13.124.193.201	192.168.219.100	TCP	1514	8200 → 61885 [ACK] Seq=1 Ack=402 Win=269 Len=1460 [TCP segment of data flow 0x12345678]
9	0.0	13.124.193.201	192.168.219.100	TCP	1514	8200 → 61885 [ACK] Seq=1461 Ack=402 Win=269 Len=1460 [TCP segment of data flow 0x12345678]
10	0.0	13.124.193.201	192.168.219.100	TCP	1514	8200 → 61885 [ACK] Seq=2921 Ack=402 Win=269 Len=1460 [TCP segment of data flow 0x12345678]
11	0.0	13.124.193.201	192.168.219.100	TCP	1514	8200 → 61885 [ACK] Seq=4381 Ack=402 Win=269 Len=1460 [TCP segment of data flow 0x12345678]
12	0.0	13.124.193.201	192.168.219.100	TCP	1514	8200 → 61885 [ACK] Seq=5841 Ack=402 Win=269 Len=1460 [TCP segment of data flow 0x12345678]
13	0.0	13.124.193.201	192.168.219.100	TCP	1514	8200 → 61885 [ACK] Seq=7301 Ack=402 Win=269 Len=1460 [TCP segment of data flow 0x12345678]
14	0.0	13.124.193.201	192.168.219.100	TCP	1514	8200 → 61885 [ACK] Seq=8761 Ack=402 Win=269 Len=1460 [TCP segment of data flow 0x12345678]
15	0.0	13.124.193.201	192.168.219.100	TCP	1514	8200 → 61885 [ACK] Seq=10221 Ack=402 Win=269 Len=1460 [TCP segment of data flow 0x12345678]

Wireshark · Packet 9 · client.pcapng

[Next Sequence Number: 2921 (relative sequence number)]
Acknowledgment Number: 402 (relative ack number)
Acknowledgment number (raw): 3169765577
0101 = Header Length: 20 bytes (5)
Flags: 0x010 (ACK)
Window: 269
[Calculated window size: 269]
[Window size scaling factor: -1 (unknown)]
Checksum: 0xb7bfa [unverified]
[Checksum Status: Unverified]
Urgent Pointer: 0
[SEQ/ACK analysis]
[Timestamps]
TCP payload (1460 bytes)
[\[Reassembled PDU in frame: 132\]](#)
TCP segment data (1460 bytes)

0030	01 0d 7b fa 00 00 65 29 7b 74 2e 65 78 70 6f 72	..{...e} {t.expor
0040	74 73 3d 66 75 6e 63 74 69 6f 6e 28 74 29 7b 69	ts=function(t){i
0050	66 28 22 66 75 6e 63 74 69 6f 6e 22 21 3d 74 79	f("function"! =ty
0060	70 65 6f 66 20 74 29 74 68 72 6f 77 20 54 79 70	peof t) t hrow Typ
0070	65 45 72 72 6f 72 28 53 74 72 69 6e 67 28 74 29	eError(S tring(t)
0080	2b 22 20 69 73 20 6e 6f 74 20 61 20 66 75 6e 63	+" is no t a func
0090	74 69 6f 6e 22 29 3b 72 65 74 75 72 6e 20 74 7d	tion");r eturn t}
00a0	7d 2c 22 31 63 37 65 22 3a 66 75 6e 63 74 69 6f	}, "1c7e" :functio
00b0	6e 28 74 2c 65 2c 6e 29 7b 76 61 72 20 72 3d 6e	n(t,e,n) {var r=n
00c0	28 22 62 36 32 32 22 29 2c 6f 3d 72 28 22 69 74	("b622"), o=r("it
00d0	65 72 61 74 6f 72 22 29 2c 69 3d 21 31 3b 74 72	erator"), i=!1;tr
00e0	79 7b 76 61 72 20 61 3d 30 2c 73 3d 7b 6e 65 78	y{var a= 0,s={nex
00f0	74 3a 66 75 6e 63 74 69 6f 6e 28 29 7b 72 65 74	t:functi on(){ret
0100	75 72 6e 7b 64 6f 6e 65 3a 21 21 61 2b 2b 7d 7d	urn{done :!!a++}}
0110	2c 72 65 74 75 72 6e 3a 66 75 6e 63 74 69 6f 6e	,return. function

과제 제출



여러분의
폭풍 성장을 응원합니다!!

