

# SRM 모니터링

(실시간 자원 모니터링 및 원격제어 웹 서비스)

팀 명 : W.W.W ( World Wide Web )

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# 1. 서론

## 1.1 연구 배경

연구주제 선정에 앞서, 본 개발팀은 사용자에게 다양한 서비스를 제공하는 웹사이트를 개발하는 목표를 가진 인원으로 구성된 팀이다.

주제를 선정하는 과정에서 사용자는 편리하게 실시간 모니터링 관리를 받아, 등록된 서버를 관리 할 수 있으며, 관리자는 이를 웹사이트로 볼 수 있게 구현하고자 목표를 세우게 되었다. 또한 개발자는 이를 통하여 관리자가 사용자에게 다양한 서비스를 제공 할 수 있는 기능을 마련하였다.

## 1.2 연구 필요성

서비스를 구성하면서 사용자의 서버관리와 원격모니터링을 제공하는 기능을 갖춘 웹사이트는 흔치 않기 때문에 본 개발팀은 사용자에게 각각의 기능을 마련할 수 있도록 각자의 개발능력향상의 필요성을 느꼈으며, 목표에 맞게 구현을 할 수 있도록 향상시키도록 노력하였다. 웹사이트를 통해 사용자는 보다 용이하게 몇 가지 프로그램 다운만으로 자신의 서버정보를 등록할시 서버의 가장 기본적인 정보를 보여주며, cpu사용량과 온도, 메모리 사용량, 네트워크 트래픽, 허용되지 않는 프로세스목록, 디스크 사용량을 보여주어, 서버관리를 보다 쉽게 하여 내부문제시 일어날 위험등을 방지하고 만약 문제가 발생시, 관리자는 원격모니터링 서비스를 통해 문제를 발견 해 준다. 그리하여 서버의 내부문제를 해결하여, 사용하는 모든 사용자에게 유용하게 활용될 프로그램으로 기대된다.

## 1.3 연구 목적 및 주제선정

본 연구목적은 개발자가 관리자와 사용자에게 각각 가질 수 있는 기능부여에 초점을 맞추었으며, 이를 시행하였다. 본 웹사이트 프로그램을 통하여 사용자는 별도의 많은 지식을 요하지 않아도 충분히 자신의 서버관리와 내부문제를 점검하고 이를 방지 및 대처할 수 있도록 구성하였다. 관리자는 사용자에게 원격으로 접속하여 원격서비스를 제공 해준다.

개발팀은 이 연구 목적을 곧 주제라고 판단하여 사용자, 관리자가 서로 상호간에 서버를 관리 및 접근하기 쉽도록 웹페이지로 제공하여 용이한 접근성에 초점을 맞추었다.

## 2. 관련연구

### 2.1 클라이언트

#### 2.1.1 Ajax (Asynchronous JavaScript and XML)

Ajax는 비동기적으로 서버와 브라우저가 데이터를 주고받는 방식을 의미한다. 웹브라우저와 웹서버가 내부적으로 데이터 통신을 하고 변경된 결과를 웹페이지에 반영함으로써 웹페이지의 재로딩 없이 데이터를 업데이트할 수 있다. 따라서 이것을 이용하여 클라이언트의 데이터를 실시간으로 전송받고 사용한다.

#### 2.1.2 WMIC Windows Management InstrumentationCommand-line)

WMI는 엔터프라이즈 네트워크에서 관리 정보를 액세스하고 공유하는 표준을 만들기 위해 Microsoft에서 구현한 것으로, 이것에 대한 간단한 명령줄 인터페이스를 제공하므로 WMI를 사용하여 Window를 실행하는 컴퓨터를 관리할 수 있다. Shell 및 유틸리티 명령과 상호작용하여 한 컴퓨터부터 다수의 컴퓨터까지 원격으로 관리할 수 있으며, 관리 스크립팅을 통해 자동화까지 가능하다. 명령 프롬프트에서 wmic 명령을 입력하여 사용할 수 있으며 C++로 구현된 클라이언트 서비스에서 사용한다.

#### 2.1.3 JSON (JavaScript Object Notation)

JSON은 속성-값 쌍으로 이루어진 데이터 오브젝트를 전달하기 위한 데이터 포맷으로 자료의 종류에 큰 제한은 없다. 본래 자바스크립트 언어로부터 파생되어 자바스크립트의 구문 형식을 따르지만 언어 독립형 데이터 포맷이다.

### 2.2 서버

#### 2.2.1 JSP(JavaServer Pages)

JSP는 HTML 내에 자바 코드를 삽입하여 웹 서버에서 동적으로 웹 페이지를 생성하여 웹 브라우저에 돌려주는 언어이다. Java EE 스펙 중 일부로 웹 애플리케이션 서버에서 동작한다. 실행시에는 자바 서블릿으로 변환된 후 실행되므로 서블릿과 거의 유사하다고 볼 수 있다. 하지만 서블릿과는 달리 HTML 표준에 따라 작성되므로 웹 디자인하기에 편리하다. 비슷한 구조로 PHP, ASP, ASP.NET 등이 있다.

### 2.2.2 JavaScript

JavaScript는 객체 기반의 스크립트 프로그래밍 언어이다. 웹 브라우저 내에서 주로 사용하며, 다른 응용 프로그램의 내장 객체에도 접근할 수 있는 기능을 가지고 있다. JAVA와 구문이 유사한 점도 있지만 이는 사실 두 언어 모두 C언어의 기본 구문을 바탕으로 했기 때문이고 직접적인 관련성은 없다. 이를 이용하여 좌표값을 Ajax로 실시간 전송하여 스크립트로 주고받는다.

### 2.2.3 Bootstrap

Bootstrap은 반응형 웹사이트를 만들 때 필요한 HTML과 CSS를 그대로 가져다 문서를 만들 수 있고, 그 외 필요한 기능들은 자바스크립트 플러그인으로 제공되고 있는 프레임워크이다. 쉽고 간편하기 때문에 최근 웹사이트 디자인에 많이 쓰인다.

## 3. 본론

### 3.1 시스템 구성



[그림 1] 시스템 구성

관리 대상 서버에서 서비스가 실행되면, wmic 및 특정 라이브러리를 통해 서버의 정보를 가져오게 된다. 가져온 데이터를 JSON 형식으로 파싱하고, 데이터를 다시 변환하여 Ajax http 통신으로 모니터링 서버에 전송하게 된다.

모니터링 서버에서는 데이터를 전송받아 JSON 형식으로 파싱하고, DB에 데이터를 저장한다. DB의 데이터는 JSP 페이지로 구현하게 된다.

## 3.2 회원가입 및 로그인

로그인

회원가입

test

test@test.com

.....

Show

회 원 가 입

[그림 2] 회원가입 화면

회원가입을 하고 로그인을 하면 이메일과 비밀번호에 RSA암호화가 적용되고 메인 페이지로 이동한다. 또한 회원가입시 비밀번호는 SHA512암호화되어 DB에 저장된다.

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SRM

테스트

서버 등록

오류 정보

서버를 등록해주세요.

STEP1 : 서버등록

1. 서버등록 버튼을 클릭해주세요.

서버 등록

오류 정보

2. 관리대상 서버의 IP와 MAC주소를 기입하여 서버를 등록해주세요.

SERVER등록 하기

SERVER 명

Server name

IP Address

ex)123.456.789.0

MAC Address

ex)A1:B2:C3:D4:E5:F

등록하기

STEP2 : 서비스 설치

3. 아래의 설치파일을 관리대상서버에 받아주세요.

SRM.zip

IE tab

4. 설치파일 중 SRM.exe와 remote.exe는 C드라이브 바로 아래에 넣어주세요.

SRM

SRM.exe

remote.exe

5. SRMInstaller.exe를 실행시켜 서비스를 설치해주세요.

SRM

SRM Monitoring Installer

SRM 서비스 설치

SRM 서비스 삭제

[그림 3] 메인페이지

### 3.3 서버등록

서버 등록 하기 ×

Server name

test

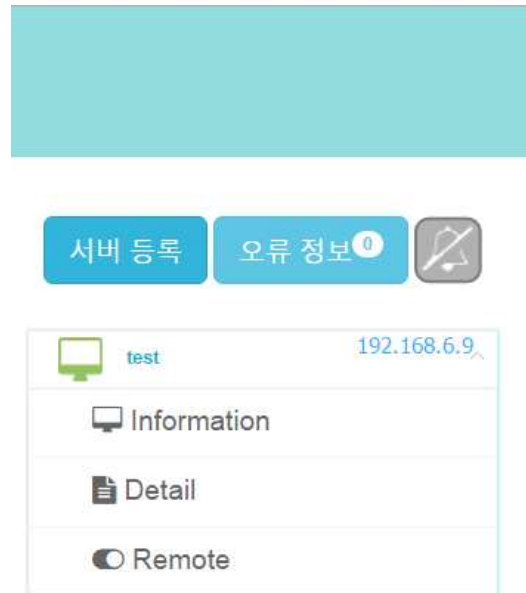
IP Address

192.168.6.9

MAC Address

B4:82:FE:8E:52:9B

등록하기



[그림 4] 서버 등록 화면

[그림 5] 서버가 등록된 리스트 화면

서버 등록 버튼을 통해 관리 대상 서버를 등록하면 [그림 5]와 같이 왼쪽에 리스트가 보인다. Information을 누르면 기본정보, Detail을 누르면 상세정보를 볼 수 있고, Remote를 누르면 원격제어를 실행할 수 있다. 하지만 그 전에 관리 대상 서버에 자체 개발 서비스를 설치해야한다.

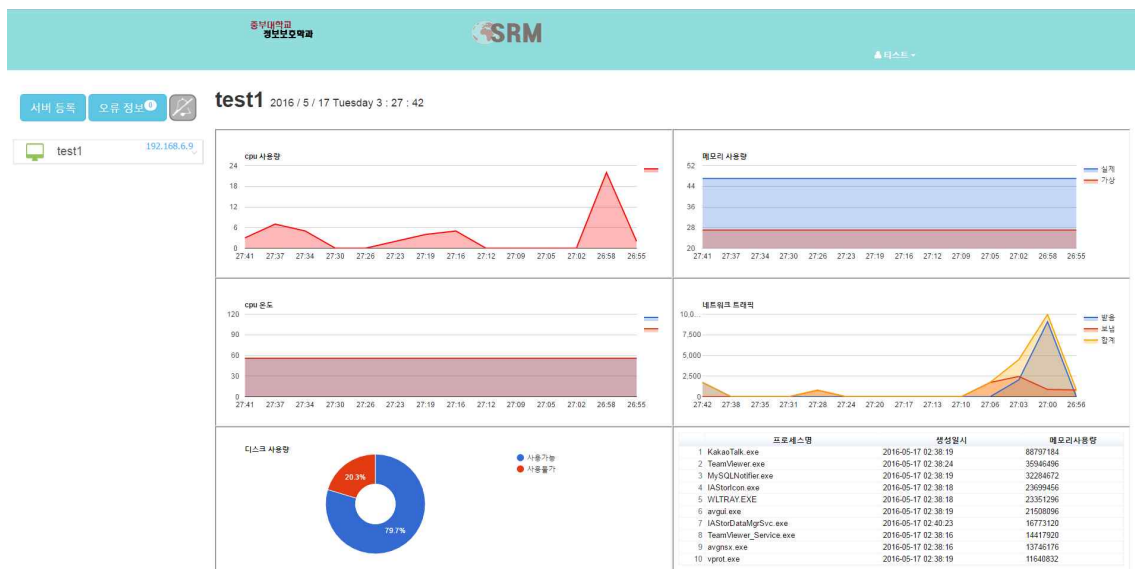
### 3.4 서비스 설치 및 실행

웹페이지에서 SRM.zip을 다운받아 압축을 풀고, SRM.exe와 remote.exe는 C드라이브 바로 아래에 넣어준다. 그 다음, SRMInstaller.exe를 실행하여 서비스 설치 버튼을 눌러주면 설치가 완료됨과 동시에 서비스가 실행된다. 서비스가 실행되면 MAC주소가 일치하는 서버의 DB에 데이터가 들어지고 화면으로 보여지게 된다. 기본정보에는 서버의 제조사, 메모리크기, bios, OS명, 윈도우 설치일 등이 저장, 표시되고 상세정보에는 서버의 CPU 사용량, 메모리 사용량, 디스크 사용량, 네트워크 트래픽, 메모리 사용량이 높은 프로세스, CPU 온도를 실시간 그래프로 표

기한다. 여기서 CPU 사용량과 메모리 사용량은 실시간으로 받아온 최신데이터들의 평균을 나타낸다.



[그림 6] 서비스 실행 후 기본정보 페이지



[그림 7] 서비스 실행 중인 상세정보 페이지

만약 데이터를 실시간으로 받아오는 도중에 위험이 감지되면 해당서버의 아이콘이 빨간색으로 바뀔과 동시에 어떤 문제가 있는지 오류 정보를 통해 알려준다.





## 4. 결론

### 4.1 결론 및 기대효과

본 연구에서 목표하고자하는 모든 계획된 기능을 완벽하게 구현하였으며, 특히 본 개발팀에서 제공하고자 하는 웹페이지를 통하여 접근성을 용이하게 구성하여 이 프로그램을 사용하는 사용자에게 365일 24시간 서버의 상태를 실시간으로 분석하여 항상 안정적으로 관리 할 수 있도록 하였다. 또한 원격제어 기능을 추가하여 관리대상 서버에 문제가 발생시, 관리자의 신속한 대처가 가능할 것으로 기대된다.

### 4.2 향후계획

웹 서비스와 연동되는 Application을 개발하여 더욱 더 접근성을 높이고, 앱을 설치하면 푸시알림을 통해 실시간으로 알림을 받을 수 있을 것이다. 또한 최근 사용자들이 다양한 브라우저를 사용함으로써 브라우저에 따라 기능이 제한되는 데, Cross browsing이 가능한 반응형 웹 페이지로 구현하여 브라우저에 상관없이 기능이 구현되도록 개발할 계획이다.

## 5. 참고 자료

서비스

<http://crowback.tistory.com/>

윈도우 프로그래밍 - 프리렉

WMIC

[https://msdn.microsoft.com/en-us/library/windows/desktop/aa385650\(v=vs.85\).aspx](https://msdn.microsoft.com/en-us/library/windows/desktop/aa385650(v=vs.85).aspx)

Ajax

<https://developers.google.com/chart/>

<http://stackoverflow.com/questions/tagged/ajax>

RSA암호화

<http://kwon37xi.egloos.com/4427199>

원격제어

<http://blog.naver.com/khj633/20119079852>

<http://savinglove.tistory.com/61>

JDBC

<http://blog.naver.com/PostView.nhn?blogId=wooin0707&logNo=220202076330&parentCategoryNo=42&categoryNo=&viewDate=&isShowPopularPosts=true&from=search>

JSON

<http://huskdoll.tistory.com/6>

JSP

<http://www.w3schools.com/>

뇌를 자극하는 JSP & Servlet – 한빛미디어

Bootstrap

<http://getbootstrap.com/>

Do it! 프론트엔드 웹 디자인 입문 – 이지스퍼블리싱

## 6. 발표 자료

### 6.1 발표 PPT



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5. 개발 환경
6. 프로그램 소개
7. 동작 과정
8. 결론



## 조원 소개

조장

이상운

프로젝트 총괄 및 개발

조원

최수지

웹 개발 및 DB 구축

조원

서유정

자료조사

조원

유리나

클라이언트 개발

조원

박소린

웹 개발 및 디자인



## 시스템 구상도



## 개발 환경 및 도구

### ▶ 개발 환경

- Windows 7
- JAVA JDK 1.8
- C++
- JSP
- JavaScript



### ▶ 개발 도구

- Visual Studio 2008
- Eclipse (Java EE)
- MySQL
- Tomcat





## 프로그램 소개

### SRM 모니터링 주요 기능

- 실시간 그래프를 통해 확인할 수 있는 상세 정보 6가지  
( CPU사용량, CPU온도, 메모리 사용량, 디스크 사용량, 네트워크 트래픽, 프로세스 )
- 관리 대상 서버의 기본 정보
- 신호등의 색으로 서버의 상태 확인 (빨강-위험, 노랑-불안, 초록-안전)
- 위험한 상태(빨강)일 경우 경고 발생
- 원격제어를 통한 관리자의 신속한 대처 가능

## 동작 과정

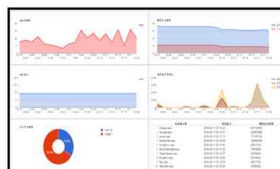
### Step 01

서버-모니터링 서버



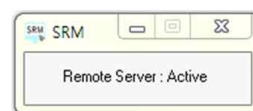
### Step 02

웹 사이트



### Step 03

원격 제어



## 동작 과정 ( 서버 -모니터링 서버 )

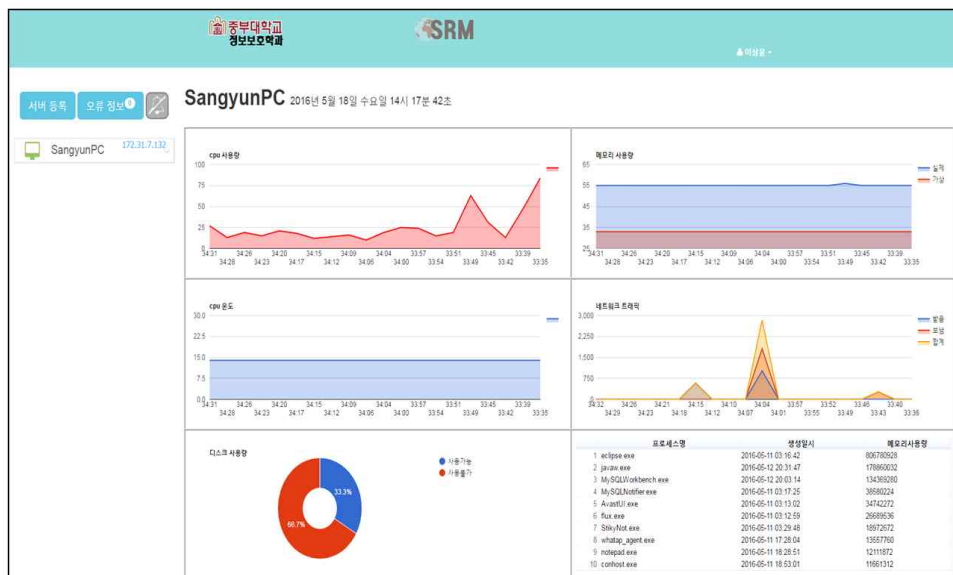


- ① 서비스 실행
- ② PC의 정보를 가져옴  
(wmic 및 특정 라이브러리)
- ③ 데이터를 JSON으로 파싱함
- ④ 데이터를 문자열로 변환해서  
Ajax http 통신으로 서버에 보냄

- ① 데이터를 받아 JSON으로 파싱함
- ② DB에 데이터를 넣음
- ③ DB의 데이터를 JSP로 구현

## 동작 과정 ( 웹 사이트 )

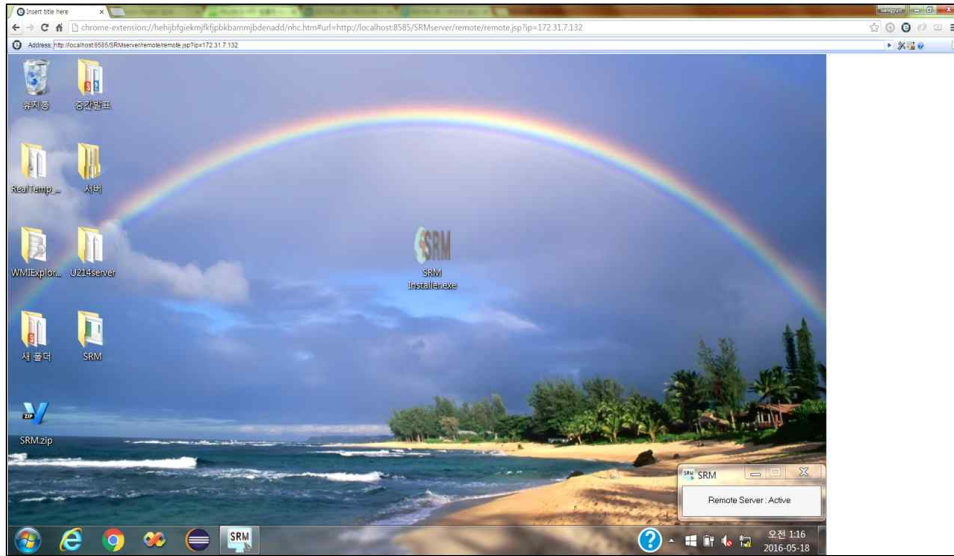
### ※ 시연 영상 재생





## 동작 과정 (원격제어)

## ※ 시연 영상 재생



## 결론

## ▶ 기대효과

실시간 모니터링으로 서버의 상태를 24시간 확인할 수 있으며,  
문제 발생 시 원격 제어기능을 통해 관리자의 빠른 대처가 가능

### ▶ 양우 발전 및 개선 방향

- 웹 서비스와 연동되는 Application을 개발하여 접근성 증진
- Cross browsing이 가능한 반응형 웹 페이지 구현

***Q & A***

***감사합니다.***

## 6.2 소스코드

### <서버 웹페이지 소스코드>

[SRM.java]

```
package com.SRM.server;

import java.io.BufferedReader;
import java.io.IOException;
import java.util.ArrayList;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import org.json.simple.JSONArray;
import org.json.simple.JSONObject;
import org.json.simple.parser.JSONParser;
import pcdetail.pcdetail1VO;
import pcdetail.pcdetail2DAO;

@WebServlet("/SRM")
public class SRM extends HttpServlet {
    private static final long serialVersionUID = 1L;

    public SRM() {
        super();
        // TODO Auto-generated constructor stub
    }
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        // TODO Auto-generated method stub
    }
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        // TODO Auto-generated method stub
        String str = getBody(request);
        String arr[] = new String[12];
        String arr1[] = new String[13];

        // 고정값
        String key[] = { "Size", "maker_name", "model", "mem_tot", "bios", "os_name", "install_date",
            "boot_time", "id",
```

```

        "mem_tot_vert", "os_ver", "processor");
// 실시간
String key1[] = { "FreeSpace", "Size", "mem_tot", "mem_max", "mem_vert", "mem_tot_vert",
"LoadPercentage",
        "PingResult", "mac", "ip", "count", "temper1", "temper2" };
String jsonInfo = str;
int rst = 0;
int i = 0;
int pcno = 0;
float scope = (float) 0.001;

try {
    pcdetail1VO vo1 = new pcdetail1VO();
    pcdetail1DAO dao1 = new pcdetail1DAO();
    pcdetail2VO vo2 = new pcdetail2VO();
    pcdetail2DAO dao2 = new pcdetail2DAO();
    pcinfoDAO pdao = new pcinfoDAO();
    JSONParser jsonParser = new JSONParser();
    JSONObject jsonObject = (JSONObject) jsonParser.parse(jsonInfo);
    //////////// 실시간
    JSONArray dataInfoArray1 = (JSONArray) jsonObject.get("infoBasket1");

    for (i = 0; i < dataInfoArray1.size(); i++) {
        JSONObject dataObject1 = (JSONObject) dataInfoArray1.get(i);
        arr1[i] = (String) dataObject1.get(key1[i]);
    }
    pcno = pdao.selectpcno(arr1[8]);
    pdao.updateip(pcno, arr1[9]);
    dao2.deletecount(pcno);
    pdao.insertcount(Integer.parseInt(arr1[10]), pcno);
    vo2.setPcno(pcno);
    vo2.setFreespace(arr1[0]);
    vo2.setSize(arr1[1]);
    long memory;
    long memory_vert;
    memory = (((Long.parseLong(arr1[2])/1024) - Long.parseLong(arr1[3])) * 100
)/(Long.parseLong(arr1[2])/1024));
    memory_vert = (((Long.parseLong(arr1[5]) - Long.parseLong(arr1[4])) * 100
)/(Long.parseLong(arr1[5]));
    vo2.setMemory((int)memory);
    vo2.setMemory_vert((int)memory_vert);
    vo2.setLoadper(Integer.parseInt(arr1[6]));
    vo2.setPing(Integer.parseInt(arr1[7]));
    if (arr1[11] == null) {
        vo2.setTemper2(-100);
        arr1[12] = "-100";
    }
}

```

```

    } else {
        vo2.setTemper1(Integer.parseInt(arr1[11]));
    }

    if (arr1[12] == null) {
        vo2.setTemper2(-100);
        arr1[12] = "-100";
    } else {
        vo2.setTemper2(Integer.parseInt(arr1[12]));
    }
    rst = dao2.insertpcdetail(vo2);

    if (rst > 0) {
        System.out.println(pcno+"시작");
        System.out.println("wmi 실시간 정보넣기 성공");
    }
    //////////// 기준선 넘는 값들 넣어주기
    if((dao2.avgloadper(pcno)>=70)           ||           (dao2.avgtemper1(pcno)>=60)           ||
    (dao2.avgtemper2(pcno)>=60) || (dao2.avgmemory(pcno)>=70) || (dao2.avgmemory_vert(pcno)>=60)){
        if((dao2.avgloadper(pcno)>=90)           ||           (dao2.avgtemper1(pcno)>=80)           ||
    (dao2.avgtemper2(pcno)>=80) || (dao2.avgmemory(pcno)>=90) || (dao2.avgmemory_vert(pcno)>=80)){
            pidao.insertcolor(3, pcno);
        } else{
            pidao.insertcolor(2, pcno);
        }
    } else{
        pidao.insertcolor(1, pcno);
    }
    if((dao2.avgloadper(pcno)>=70)){
        if((dao2.avgloadper(pcno)>=90)){
            pidao.insertloadper(3, pcno);
        } else{
            pidao.insertloadper(2, pcno);
        }
    } else {
        pidao.insertloadper(1, pcno);
    }

    if((dao2.avgtemper1(pcno)>=60)){
        if((dao2.avgtemper1(pcno)>=80)){
            pidao.inserttemper1(3, pcno);
        } else{
            pidao.inserttemper1(2, pcno);
        }
    } else {

```

```

        pdao.inserttemper1(1, pcno);
    }

    if((dao2.avgtemper2(pcno)>=60)){
        if((dao2.avgtemper2(pcno)>=80)){
            pdao.inserttemper2(3, pcno);
        } else{
            pdao.inserttemper2(2, pcno);
        }
    } else {
        pdao.inserttemper2(1, pcno);
    }

    if((dao2.avgmemory(pcno)>=70)){
        if((dao2.avgmemory(pcno)>=90)){
            pdao.insertmemory(3, pcno);
        } else{
            pdao.insertmemory(2, pcno);
        }
    } else {
        pdao.insertmemory(1, pcno);
    }

    if((dao2.avgmemory_vert(pcno)>=60)){
        if((dao2.avgmemory_vert(pcno)>=80)){
            pdao.insertmemory_vert(3, pcno);
        } else{
            pdao.insertmemory_vert(2, pcno);
        }
    } else {
        pdao.insertmemory_vert(1, pcno);
    }

    // 위의 모든 flag가 0일 때, color를 1(녹색)로 바꿔준다.
    if(pdao.insertgreen(pcno)==1) {
        pdao.insertcolor(1, pcno);
    }

    ////////// 프로세스
    JSONArray dataInfoArray2 = (JSONArray) jsonObject.get("procBasket");

    int S = dataInfoArray2.size();
    String[] name = new String[S];
    String[] date = new String[S];
    String[] size = new String[S];

    for (i = 0; i < dataInfoArray2.size(); i++) {
        JSONObject dataObject2 = (JSONObject) dataInfoArray2.get(i);
        name[i] = (String) dataObject2.get("name");
        date[i] = (String) dataObject2.get("date");
    }

```

```

        size[i] = (String) dataObject2.get("size");
    }
    // 전체 프로세스 넣기
    totalprocVO tpvo = new totalprocVO();
    totalprocDAO tpdao = new totalprocDAO();
    tpdao.deletecount(pcnno);

    for (i = 0; i < S; i++) {
        tpvo.setPcno(pcnno);
        tpvo.setName(name[i]);
        tpvo.setDate(date[i]);
        tpvo.setSize(size[i]);
        rst = tpdao.inserttotalproc(tpvo);
    }

    if (rst > 0) System.out.println("전체프로세스");
    // 허용가능 프로세스 뽑아내기
    allowprocDAO apdao = new allowprocDAO();
    String[] allowproc = apdao.printallowproc(pcnno);
    // 허용 불가 프로세스 걸러내기
    ArrayList<String> notallow_name = new ArrayList<String>();
    ArrayList<String> notallow_date = new ArrayList<String>();
    ArrayList<String> notallow_size = new ArrayList<String>();
    boolean b; int j;
    for (i = 0; i < S; i++) {
        b = true;
        for (j = 0; j < allowproc.length; j++) {
            if (name[i].equals(allowproc[j])) {
                b = false;
            }
        }
        if (b) {
            notallow_name.add(name[i]);
            notallow_date.add(date[i]);
            notallow_size.add(size[i]);
        }
    }
    // 허용 불가 프로세스 넣기
    notallowprocVO npvo = new notallowprocVO();
    notallowprocDAO npdao = new notallowprocDAO();
    npdao.deletecount(pcnno);

    for (i = 0; i < notallow_name.size(); i++) {
        if(i==0){ npvo.setScope(0);
        }
        else if(i==(notallow_name.size()-1)){

```

```

        npvo.setScope(1);
    }
    npvo.setPcno(pcno);
    npvo.setName(notallow_name.get(i));
    npvo.setDate(notallow_date.get(i));
    npvo.setSize(notallow_size.get(i));
    npvo.setScope(scope);
    rst = npdao.insertnotallowproc(npvo);
    scope += (float)0.001;
}
if (rst > 0) {
    System.out.println("허용불가");
}
// 네트워크정보 넣기
JSONArray dataInfoArray3 = (JSONArray) jsonObject.get("netBasket");

S = dataInfoArray3.size();
int[] received = new int[S];
int[] sent = new int[S];
int[] total = new int[S];

for (i = 0; i < dataInfoArray3.size(); i++) {
    JSONObject dataObject3 = (JSONObject) dataInfoArray3.get(i);
    received[i] = Integer.parseInt((String) dataObject3.get("received"));
    sent[i] = Integer.parseInt((String) dataObject3.get("sent"));
    total[i] = Integer.parseInt((String) dataObject3.get("total"));
}
networkVO nvo = new networkVO();
networkDAO ndao = new networkDAO();
ndao.deletecount(pcno);
nvo.setReceived(0);
nvo.setSent(0);
nvo.setTotal(0);
nvo.setPcno(pcno);

for (i = 0; i < S; i++) {
    if (received[i] != 0 || sent[i] != 0) {
        nvo.setReceived(received[i]);
        nvo.setSent(sent[i]);
        nvo.setTotal(total[i]);
        nvo.setPcno(pcno);
    }
}

rst = ndao.insertnetwork(nvo);

```



```

if (rst > 0) {
    System.out.println("네트워크정보");
    System.out.println(pcno+"끝");
}
if (pdao.printcount(pcno) == 0) {
    //////////// 고정값
    JSONArray dataInfoArray = (JSONArray) jsonObject.get("infoBasket");

    for (i = 0; i < dataInfoArray.size(); i++) {
        JSONObject dataObject = (JSONObject) dataInfoArray.get(i);

        arr[i] = (String) dataObject.get(key[i]);
    }
    pcno = pdao.selectpcno(arr[8]);

    pdao.updateip(pcno, arr[9]);
    vo1.setPcno(pcno);
    float disk = Float.parseFloat(arr[0])/1024/1024/1024;
    double diskd = Math.round(disk*100d) / 100d;
    vo1.setSize(Double.toString(diskd));
    vo1.setMaker_name(arr[1]);
    vo1.setModel(arr[2]);
    float mem = Float.parseFloat(arr[3])/1024/1024/1024;
    double memd = Math.round(mem*100d) / 100d;
    vo1.setMem_tot(Double.toString(memd));
    vo1.setBios(arr[4]);
    vo1.setOs_name(arr[5]);
    vo1.setInstall_date(arr[6]);
    vo1.setBoot_time(arr[7]);
    vo1.setId(arr[8]);
    float mem_vert = Float.parseFloat(arr[9])/1024/1024;
    double mem_vertd = Math.round(mem_vert*100d) / 100d;
    vo1.setMem_tot_vert(Double.toString(mem_vertd));
    vo1.setOs_ver(arr[10]);
    vo1.setProcessor(arr[11]);

    rst = dao1.insertpcdetail(vo1);

    if (rst > 0) {
        System.out.println("wmi 고정정보넣기 성공");
    }
}
} catch (Exception e){
    e.printStackTrace();
}
}

```

```

public static String getBody(HttpServletRequest request) throws IOException {
    // Read from request
    StringBuilder buffer = new StringBuilder();
    BufferedReader reader = request.getReader();
    String line;
    while ((line = reader.readLine()) != null) {
        buffer.append(line);
    }
    String data = buffer.toString();
    return data;
}
}

```

---

[Encrypt.java]

```

package etc;

import java.security.*;
public class Encrypt {
    public String sha512(String s){
        try{
            MessageDigest di = MessageDigest.getInstance("SHA-512");
            di.update(s.getBytes());
            byte messageDigest[] = di.digest();
            StringBuffer hexString = new StringBuffer();
            for(int i=0;i<messageDigest.length;i++)
                hexString.append(Integer.toHexString(0xFF & messageDigest[i]));
            return hexString.toString();
        } catch (NoSuchAlgorithmException e){
            e.printStackTrace();
        }
        return "";
    }
}

```

---

[pcdetail2DAO.java]

```

package pcdetail;

import etc.ConnUtil;
import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.Statement;

public class pcdetail2DAO {
    public int deletecount(int pcno) {

```

```

int rst = 0;
Connection conn = null;
Statement stmt = null;
ResultSet rs = null;
int count = 0;

try {
    conn = ConnUtil.getConnection();
    String sql = "select count(*) from pcdetail2 where pcno=" + pcno;
    stmt = conn.createStatement();
    rs = stmt.executeQuery(sql);

    if (rs.next()) {
        count = rs.getInt(1);
    }

    if (count > 45) {
        sql = "delete from pcdetail2 where pcno=" + pcno + " order by reg_date asc limit 20";
        stmt = conn.createStatement();
        rst = stmt.executeUpdate(sql);
    }

} catch (Exception e) { e.printStackTrace();
} finally { ConnUtil.close(rs, conn);
} return rst;
}

public int insertpcdetail(pcdetail2VO vo) {
    int rst = 0;
    Connection conn = null;
    PreparedStatement ps = null;

    try {
        conn = ConnUtil.getConnection();
        String sql = "insert into pcdetail2 (pcno, freespace, size, memory,
memory_vert," + " loadper, temper1, temper2, ping)" + " values (?, ?, ?, ?, ?, ?, ?, ?)";
        ps = conn.prepareStatement(sql);
        ps.setInt(1, vo.getPcno());
        ps.setString(2, vo.getFreespace());
        ps.setString(3, vo.getSize());
        ps.setInt(4, vo.getMemory());
        ps.setInt(5, vo.getMemory_vert());
        ps.setInt(6, vo.getLoadper());
        ps.setInt(7, vo.getTemper1());
        ps.setInt(8, vo.getTemper2());
        ps.setInt(9, vo.getPing());
    }

```

```

        rst = ps.executeUpdate();
    } catch (Exception e) {
        e.printStackTrace();
    } finally {
        ConnUtil.close(ps, conn);
    }
    return rst;
}

public String[] printreg_date(int pcno) {
    Connection conn = null;
    Statement stmt = null;
    ResultSet rs = null;
    String[] reg_date = null;
    int numRows = 0;

    try {
        conn = ConnUtil.getConnection();
        String sql = "select date_format(reg_date, '%i:%s') from pcdetail2 where
pcno=" + pcno + " order by reg_date desc limit 20";

        stmt = conn.createStatement();
        rs = stmt.executeQuery(sql);

        if (rs.next()) {
            rs.last();
            numRows = rs.getRow();
            reg_date = new String[numRows];
            rs.beforeFirst();
            for (int i = 0; rs.next(); i++) {
                reg_date[i] = rs.getString(1);
            }
        }
    } catch (Exception e) {
        e.printStackTrace();
    } finally {
        ConnUtil.close(rs, conn);
    }
    return reg_date;
}

public int[] printloadper(int pcno) {
    Connection conn = null;
    Statement stmt = null;
    ResultSet rs = null;

```

```

int[] loadper = null;
int numRows = 0;

try {
    conn = ConnUtil.getConnection();
    String sql = "select loadper from pcdetail2 where pcno=" + pcno + "
order by reg_date desc limit 20";
    stmt = conn.createStatement();
    rs = stmt.executeQuery(sql);
    if (rs.next()) {
        rs.last();
        numRows = rs.getRow();
        loadper = new int[numRows];

        rs.beforeFirst();
        for (int i = 0; rs.next(); i++) {
            loadper[i] = rs.getInt(1);
        }
    }
} catch (Exception e) {
    e.printStackTrace();
} finally {
    ConnUtil.close(rs, conn);
}

return loadper;
}

public long[] printmemory(int pcno) {
    Connection conn = null;
    Statement stmt = null;
    ResultSet rs = null;
    long[] memory = null;
    int numRows = 0;

    try {
        conn = ConnUtil.getConnection();
        String sql = "select memory from pcdetail2 where pcno=" + pcno + "
order by reg_date desc limit 20";
        stmt = conn.createStatement();
        rs = stmt.executeQuery(sql);

        if (rs.next()) {
            rs.last();
            numRows = rs.getRow();
            memory = new long[numRows];
            rs.beforeFirst();
            for (int i = 0; rs.next(); i++) {

```

```

        memory[i] = rs.getLong(1);
    }
}
} catch (Exception e) {
    e.printStackTrace();
} finally {
    ConnUtil.close(rs, conn);
}
return memory;
}

public long[] printmemory_vert(int pcno) {
    Connection conn = null;
    Statement stmt = null;
    ResultSet rs = null;
    long[] memory_vert = null;
    int numRows = 0;

    try {
        conn = ConnUtil.getConnection();
        String sql = "select memory_vert from pcdetail2 where pcno=" + pcno
+ " order by reg_date desc limit 20";

        stmt = conn.createStatement();
        rs = stmt.executeQuery(sql);

        if (rs.next()) {
            rs.last();
            numRows = rs.getRow();
            memory_vert = new long[numRows];
            rs.beforeFirst();
            for (int i = 0; rs.next(); i++) {
                memory_vert[i] = rs.getLong(1);
            }
        }
    } catch (Exception e) {
        e.printStackTrace();
    } finally {
        ConnUtil.close(rs, conn);
    }
    return memory_vert;
}

public long[] printdiskusage(int pcno) {
    Connection conn = null;
    Statement stmt = null;
    ResultSet rs = null;

```

```

        long[] diskusage = null;
        String size = null;
        String freespace = null;

        try {
            conn = ConnUtil.getConnection();
            String sql = "select size, freespace from pcdetail2 where pcno=" +
pcno + " order by reg_date desc limit 1";
            stmt = conn.createStatement();
            rs = stmt.executeQuery(sql);
            if (rs.next()) {
                diskusage = new long[2];
                size = rs.getString(1);
                freespace = rs.getString(2);
            }
            // 0이 남은공간 1이 사용중
            diskusage[0] = Long.parseLong(freespace) / 1024 / 1024 / 1024;
            diskusage[1] = (Long.parseLong(size)-Long.parseLong(freespace))/1024/ 1024 /1024;
        } catch (Exception e) {
            e.printStackTrace();
        } finally {
            ConnUtil.close(rs, conn);
        }
        return diskusage;
    }
}

```

```

public int[] printping(int pcno) {
    Connection conn = null;
    Statement stmt = null;
    ResultSet rs = null;
    int[] ping = null;
    int numRows = 0;

    try {
        conn = ConnUtil.getConnection();
        String sql = "select ping from pcdetail2 where pcno=" + pcno + "
order by reg_date desc limit 100";
        stmt = conn.createStatement();
        rs = stmt.executeQuery(sql);
        if (rs.next()) {
            rs.last();
            numRows = rs.getRow();
            ping = new int[numRows];

            rs.beforeFirst();
            for (int i = 0; rs.next(); i++) {

```

```

        ping[i] = rs.getInt(1);
    }
}
} catch (Exception e) {
    e.printStackTrace();
} finally {
    ConnUtil.close(rs, conn);
}
return ping;
}

public int[] printtemper1(int pcno) {
    Connection conn = null;
    Statement stmt = null;
    ResultSet rs = null;
    int[] temper1 = null;
    int numRows = 0;

    try {
        conn = ConnUtil.getConnection();
        String sql = "select temper1 from pcdetail2 where pcno=" + pcno + "
order by reg_date desc limit 20";
        stmt = conn.createStatement();
        rs = stmt.executeQuery(sql);

        if (rs.next()) {
            rs.last();
            numRows = rs.getRow();
            temper1 = new int[numRows];
            rs.beforeFirst();
            for (int i = 0; rs.next(); i++) {
                temper1[i] = rs.getInt(1);
            }
        }
    } catch (Exception e) {
        e.printStackTrace();
    } finally {
        ConnUtil.close(rs, conn);
    }
    return temper1;
}

public int[] printtemper2(int pcno) {
    Connection conn = null;
    Statement stmt = null;
    ResultSet rs = null;

```



```

int[] temper2 = null;
int numRows = 0;

try {
    conn = ConnUtil.getConnection();
    String sql = "select temper2 from pcdetail2 where pcno=" + pcno + "
order by reg_date desc limit 20";
    stmt = conn.createStatement();
    rs = stmt.executeQuery(sql);
    if (rs.next()) {
        rs.last();
        numRows = rs.getRow();
        temper2 = new int[numRows];
        rs.beforeFirst();
        for (int i = 0; rs.next(); i++) {
            temper2[i] = rs.getInt(1);
        }
    }
} catch (Exception e) {
    e.printStackTrace();
} finally {
    ConnUtil.close(rs, conn);
}
return temper2;
}

```

```

public float avgloadper(int pcno) {
    Connection conn = null;
    Statement stmt = null;
    ResultSet rs = null;
    float loadper = 0;

    try {
        conn = ConnUtil.getConnection();
        String sql = "select avg(loadper) from pcdetail2 where pcno=" + pcno + "
order by reg_date desc limit 10";
        stmt = conn.createStatement();
        rs = stmt.executeQuery(sql);

        if (rs.next()) {
            loadper = rs.getFloat(1);
        }
    } catch (Exception e) {
        e.printStackTrace();
    } finally {
        ConnUtil.close(rs, conn);
    }
}

```

```

    }
    return loader;
}

public float avgtemper1(int pcno) {
    Connection conn = null;
    Statement stmt = null;
    ResultSet rs = null;
    float temper1 = 0;

    try {
        conn = ConnUtil.getConnection();
        String sql = "select avg(temper1) from pcdetail2 where pcno=" + pcno
+ " order by reg_date desc limit 5";

        stmt = conn.createStatement();
        rs = stmt.executeQuery(sql);

        if (rs.next()) {
            temper1 = rs.getFloat(1);
        }
    } catch (Exception e) {
        e.printStackTrace();
    } finally {
        ConnUtil.close(rs, conn);
    }
    return temper1;
}

public float avgtemper2(int pcno) {
    Connection conn = null;
    Statement stmt = null;
    ResultSet rs = null;
    float temper2 = 0;

    try {
        conn = ConnUtil.getConnection();
        String sql = "select avg(temper2) from pcdetail2 where pcno=" + pcno
+ " order by reg_date desc limit 5";

        stmt = conn.createStatement();
        rs = stmt.executeQuery(sql);

        if (rs.next()) {
            temper2 = rs.getFloat(1);
        }
    }

```

```

    } catch (Exception e) {
        e.printStackTrace();
    } finally {
        ConnUtil.close(rs, conn);
    }
    return temper2;
}

public float avgmemory(int pcno) {
    Connection conn = null;
    Statement stmt = null;
    ResultSet rs = null;
    float memory = 0;

    try {
        conn = ConnUtil.getConnection();
        String sql = "select avg(memory) from pcdetail2 where pcno=" + pcno
+ " order by reg_date desc limit 10";

        stmt = conn.createStatement();
        rs = stmt.executeQuery(sql);

        if (rs.next()) {
            memory = rs.getFloat(1);
        }
    } catch (Exception e) {
        e.printStackTrace();
    } finally {
        ConnUtil.close(rs, conn);
    }
    return memory;
}

public float avgmemory_vert(int pcno) {
    Connection conn = null;
    Statement stmt = null;
    ResultSet rs = null;
    float memory_vert = 0;

    try {
        conn = ConnUtil.getConnection();
        String sql = "select avg(memory_vert) from pcdetail2 where pcno=" +
pcno + " order by reg_date desc limit 10";
        stmt = conn.createStatement();
        rs = stmt.executeQuery(sql);

```

```

        if (rs.next()) {
            memory_vert = rs.getFloat(1);
        }
    } catch (Exception e) {
        e.printStackTrace();
    } finally {
        ConnUtil.close(rs, conn);
    }
    return memory_vert;
}

public void deleteDetail2(int pcno) {
    Connection conn = null;
    PreparedStatement ps = null;
    ResultSet rs = null;
    try {
        conn = ConnUtil.getConnection();
        String sql = "delete from pcdetail2 where pcno = ?";
        ps = conn.prepareStatement(sql);
        ps.setInt(1, pcno);
        ps.executeUpdate();

    } catch (Exception e) {
        e.printStackTrace();
    } finally {
        ConnUtil.close(rs, ps, conn);
    }
}
}

```

---

[LoginFormServlet.java]

```

package rsa;

import java.io.IOException;
import java.security.KeyFactory;
import java.security.KeyPair;
import java.security.KeyPairGenerator;
import java.security.PrivateKey;
import java.security.PublicKey;
import java.security.spec.RSAPublicKeySpec;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.http.HttpSession;

```

```

public class LoginFormServlet extends HttpServlet {
    public static final int KEY_SIZE = 1024;
    protected void processRequest(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
    try {
        KeyPairGenerator generator = KeyPairGenerator.getInstance("RSA");
        generator.initialize(KEY_SIZE);

        KeyPair keyPair = generator.genKeyPair();
        KeyFactory keyFactory = KeyFactory.getInstance("RSA");

        PublicKey publicKey = keyPair.getPublic();
        PrivateKey privateKey = keyPair.getPrivate();

        HttpSession session = request.getSession();
        // 세션에 공개키의 문자열을 키로하여 개인키를 저장한다.
        session.setAttribute("__rsaPrivateKey_", privateKey);
        // 공개키를 문자열로 변환하여 JavaScript RSA 라이브러리 넘겨준다.
        RSAPublicKeySpec publicSpec = (RSAPublicKeySpec) keyFactory.getKeySpec(publicKey,
RSAPublicKeySpec.class);

        String publicKeyModulus = publicSpec.getModulus().toString(16);
        String publicKeyExponent = publicSpec.getPublicExponent().toString(16);

        request.setAttribute("publicKeyModulus", publicKeyModulus);
        request.setAttribute("publicKeyExponent", publicKeyExponent);

        request.getRequestDispatcher("loginform.jsp").forward(request, response);
    } catch (Exception ex) {
        throw new ServletException(ex.getMessage(), ex);
    }
}

@Override
protected void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
    processRequest(request, response);
}

@Override
protected void doPost(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
    processRequest(request, response);
}

@Override

```

```

    public String getServletInfo() {
        return "Short description";
    } // </editor-fold>
}

```

-----  
[LoginServlet.java]

```

package rsa;

import java.io.IOException;
import java.math.BigInteger;
import java.security.PrivateKey;
import javax.crypto.Cipher;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.http.HttpSession;
import sun.misc.BASE64Decoder;
import sun.misc.BASE64Encoder;

public class LoginServlet extends HttpServlet {
    protected void processRequest(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        String securedUsername = request.getParameter("securedUsername");
        System.out.println(securedUsername);
        String securedPassword = request.getParameter("securedPassword");
        System.out.println(securedPassword);

        HttpSession session = request.getSession();
        PrivateKey privateKey =
            (PrivateKey) session.getAttribute("__rsaPrivateKey__");
        session.removeAttribute("__rsaPrivateKey__");
        // 키의 재사용을 막는다. 항상 새로운 키를 받도록 강제.

        if (privateKey == null) {
            request.getRequestDispatcher("index.jsp").forward(request, response);
        }
        try {
            String username = decryptRsa(privateKey, securedUsername);
            String password = decryptRsa(privateKey, securedPassword);

            request.setAttribute("username", username);
            request.setAttribute("password", password);
            request.getRequestDispatcher("/login/loginProc.jsp").forward(request, response);
        }
    }
}

```

```

    } catch (Exception ex) {
        throw new ServletException(ex.getMessage(), ex);
    }
}

private String decryptRsa(PublicKey publicKey, String securedValue) throws Exception {
    System.out.println("will decrypt : " + securedValue);
    Cipher cipher = Cipher.getInstance("RSA");
    byte[] encryptedBytes = hexToByteArray(securedValue);
    cipher.init(Cipher.DECRYPT_MODE, publicKey);
    byte[] decryptedBytes = cipher.doFinal(encryptedBytes);
    String decryptedValue = new String(decryptedBytes, "utf-8");
    return decryptedValue;
}

public static byte[] hexToByteArray(String hex) {
    if (hex == null || hex.length() % 2 != 0) {
        return new byte[]{};
    }

    byte[] bytes = new byte[hex.length() / 2];
    for (int i = 0; i < hex.length(); i += 2) {
        byte value = (byte)Integer.parseInt(hex.substring(i, i + 2), 16);
        bytes[(int) Math.floor(i / 2)] = value;
    }
    return bytes;
}

@Deprecated
public static byte[] hexToByteArrayBI(String hexString) {
    return new BigInteger(hexString, 16).toByteArray();
}

public static String base64Encode(byte[] data) throws Exception {
    BASE64Encoder encoder = new BASE64Encoder();
    String encoded = encoder.encode(data);
    return encoded;
}

public static byte[] base64Decode(String encryptedData) throws Exception {
    BASE64Decoder decoder = new BASE64Decoder();
    byte[] decoded = decoder.decodeBuffer(encryptedData);
    return decoded;
}

@Override
protected void doGet(HttpServletRequest request, HttpServletResponse response)

```

```

        throws ServletException, IOException {
    processRequest(request, response);
}

@Override
protected void doPost(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {
    processRequest(request, response);

@Override
public String getServletInfo() {
    return "Short description";
} // </editor-fold>
}

```

-----

[style.scss]

```

@import 'bourbon'; // http://bourbon.io/
@import '../partials2/variables'; // colors, fonts etc...
@import '../partials2/mixins'; // custom mixins
@import '../partials2/layout'; // responsive grid and media queries

```

```

/* -----로그인 회원가입 scss -----*/
.cd-user-modal {
    position: fixed;
    top: 0;
    left: 0;
    width: 100%;
    height: 100%;
    background: rgba($color-1, .9);
    z-index: $modal-zindex;
    overflow-y: auto;
    cursor: pointer;

    visibility: hidden;
    opacity: 0;
    @include transition(opacity .3s, visibility .3s);

    &.is-visible {
        visibility: visible;
        opacity: 1;

        .cd-user-modal-container {
            @include transform(translateY(0));
        }
    }
}

```



```
}
```

```
.cd-user-modal-container {  
    position: relative;  
    width: 90%;  
    max-width: 600px;  
    background: #FFF;  
    margin: 3em auto 4em;  
    cursor: auto;  
    @include border-radius;  
    @include transform(translateY(-30px));  
  
    @include transition-property (transform);  
    @include transition-duration(.3s);  
  
    .cd-switcher {  
        @include clearfix;  
  
        li {  
            @include column(.5);  
            text-align: center;  
  
            &:first-child a {  
                border-radius: .25em 0 0 0;  
            }  
  
            &:last-child a {  
                border-radius: 0 .25em 0 0;  
            }  
        }  
  
        a {  
            display: block;  
            width: 100%;  
            height: 50px;  
            line-height: 50px;  
            background: $color-3;  
            color: darken($color-3, 30%);  
  
            &.selected {  
                background: #FFF;  
                color: $main-text;  
            }  
        }  
    }  
}
```

```

    @include MQ(S) {
        margin: 4em auto;

        .cd-switcher a {
            height: 70px;
            line-height: 70px;
        }
    }
}

.cd-form {
    padding: 1.4em;

    .fieldset {
        position: relative;
        margin: 1.4em 0;

        &:first-child {
            margin-top: 0;
        }

        &:last-child {
            margin-bottom: 0;
        }
    }

    label {
        @include font-size(14px);

        &.image-replace {
            /* replace text with an icon */
            display: inline-block;
            position: absolute;
            left: 15px;
            @include center(y);
            height: 20px;
            width: 20px;

            overflow: hidden;
            text-indent: 100%;
            white-space: nowrap;
            color: transparent;
            text-shadow: none;

            background-repeat: no-repeat;
            background-position: 50% 0;
        }
    }
}

```

```

    }

    &.cd-username {
background-image: url('../images/login/ cd-icon-username.svg');
    }

    &.cd-email {
background-image: url('../images/login/ cd-icon-email.svg');
    }

    &.cd-password {
background-image: url('../images/login/ cd-icon-password.svg');
    }
}

input {
    margin: 0;
    padding: 0;
    @include border-radius;

    &.full-width {
        width: 100%;
    }

    &.has-padding {
        padding: 12px 20px 12px 50px;
    }

    &.has-border {
        border: 1px solid $color-3;
        @include appearance(none);

        &.focus {
            border-color: $color-1;
            box-shadow: 0 0 5px rgba($color-1, .1);
            outline: none;
        }
    }

    &.has-error {
        border: 1px solid $red;
    }

    &[type=password] {
        /* space left for the HIDE button */
        padding-right: 65px;
    }
}

```

```

    }

    &[type=submit] {
        padding: 16px 0;
        cursor: pointer;
        background: $color-2;
        color: #FFF;
        font-weight: bold;
        border: none;
        @include appearance(none);

        .no-touch &:hover, .no-touch &:focus {
            background: lighten($color-2, 5%);
            outline: none;
        }
    }
}

.hide-password {
    display: inline-block;
    position: absolute;
    right: 0;
    top: 0;
    padding: 6px 15px;
    border-left: 1px solid $color-3;
    @include center(y); // see partials > _mixins.scss
    @include font-size(14px);
    color: $color-1;
}

.cd-error-message {
    display: inline-block;
    position: absolute;
    left: -5px;
    bottom: -35px;
    background: rgba($red, .9);
    padding: .8em;
    z-index: 2;
    color: #FFF;
    @include font-size(13px);
    @include border-radius;

    /* 클릭시 */
    pointer-events: none;

    visibility: hidden;

```

```
opacity: 0;
```

```
@include transition(opacity .2s 0, visibility 0 .2s);
```

```
&::after {  
    /* triangle */  
    content: "";  
    position: absolute;  
    left: 22px;  
    bottom: 100%;  
    @include triangle(16px, rgba($red, .9), up);  
}
```

```
&.is-visible {  
    opacity: 1;  
    visibility: visible;  
  
    @include transition(opacity .2s 0, visibility 0 0);  
}
```

```
}
```

```
@include MQ(S) {  
    padding: 2em;
```

```
.fieldset {  
    margin: 2em 0;  
  
    &:first-child {  
        margin-top: 0;  
    }  
  
    &:last-child {  
        margin-bottom: 0;  
    }  
}
```

```
input.has-padding {  
    padding: 16px 20px 16px 50px;  
}
```

```
input[type=submit] {  
    padding: 16px 0;  
}
```

```
}
```

```
}
```

```
.cd-form-message {
    padding: 1.4em 1.4em 0;
    @include font-size(14px);
    line-height: 1.4;
    text-align: center;

    @include MQ(S) {
        padding: 2em 2em 0;
    }
}
```

```
.cd-form-bottom-message {
    position: absolute;
    width: 100%;
    left: 0;
    bottom: -30px;
    text-align: center;
    @include font-size(14px);

    a {
        color: #FFF;
        text-decoration: underline;
    }
}
```

```
.cd-close-form {
    /* form X button on top right */
    display: block;
    position: absolute;
    width: 40px;
    height: 40px;
    right: 0;
    top: -40px;
    background: url('../img/cd-icon-close.svg') no-repeat center center;
    text-indent: 100%;
    white-space: nowrap;
    overflow: hidden;

    @include MQ(L) {
        display: none;
    }
}
```

```
#cd-login, #cd-signup, #cd-reset-password {
    display: none;
}
```

```
#cd-login.is-selected, #cd-signup.is-selected, #cd-reset-password.is-selected {
    display: block;
}
```

-----  
[main.css]

```
/*****main부분 drop down*****/
```

```
.dropdown:hover .dropdown-menu {
    display: block;
}
```

```
.navbar .nav li.dropdown.open > .dropdown-toggle,
.navbar .nav li.dropdown.active > .dropdown-toggle,
.navbar .nav li.dropdown.open.active > .dropdown-toggle {
    color: #555555;
    background-color: #000;
    outline: 0;
    -webkit-box-shadow: none;
    -moz-box-shadow: none;
    box-shadow: none;
}
```

```
.dropdown-menu:after,
.dropdown-menu:before {
    top: -1px;
    left: 10px;

    content: "";
}
```

```
.dropdown-menu {
    border-top: 5px solid transparent;
    position: absolute;
    top: 70%;
    left: 0;
    z-index: 1000;
    display: none;
    float: left;
    min-width: 500px;
    max-width: 700px;
    padding: 0px 0;
    margin: 0px 0 0 0;
    list-style: none;
    text-shadow: none;
}
```

```

        -webkit-border-radius: 0px;
        -moz-border-radius: 0px;
            border-radius: 0px;
        -webkit-box-shadow: none;
        -moz-box-shadow: none;
            box-shadow: none;
        color: #ffffff;
    }

.dropdown-menu.pull-right {
    right: 0;
    left: auto;
}

.dropdown-menu .divider {
    *width: 100%;
    height: 1px;
    margin: 0px 1px;
    *margin: -5px 0 5px;
    overflow: hidden;
    background-color: #eee;
    border-bottom: 1px solid #ffffff;
}

.dropdown-menu li a {
    display: block;
    padding: 7px 10px !important;
    clear: both;
    font-weight: normal;
    line-height: 20px;
    color: #000;
    text-shadow: none;
    white-space: normal !important;
}

.dropdown-menu li {
    border-bottom: 1px solid #eee;
}

.dropdown-menu li:first-child {
    border-top: 0px !important;
}

.dropdown-menu li:last-child {
    border-bottom: 0px !important;
}

```



```
.dropdown-menu li > a:hover,  
.dropdown-menu li > a:focus,  
.dropdown-submenu:hover > a {  
    color: #d0fbf2;  
    text-decoration: none;  
    background: #578EBE;  
}
```

```
.dropdown-menu .active > a,  
.dropdown-menu .active > a:hover {  
    color: #d0fbf2;  
    text-decoration: none;  
    background: #578EBE;  
}
```

```
.dropdown-menu .disabled > a,  
.dropdown-menu .disabled > a:hover {  
    color: #999999;  
}
```

```
.dropdown-menu .disabled > a:hover {  
    text-decoration: none;  
    cursor: default;  
    background-color: transparent;  
}
```

```
.dropdown-menu-title {  
    background: #222;  
    color: #fff;  
    padding: 8px 0px;  
    position: relative;  
}
```

```
.dropdown-menu-title span {  
    margin-left: 20px;  
}
```

```
.dropdown-menu-title a:link {  
    position: absolute;  
    right: 4px;  
    top: 4px;  
    padding: 4px 6px !important;  
}
```

```
.dropdown-menu-title a i {
```

```

        color: #fff;
    }

.dropdown-menu-title a:hover {
    background: #fff !important;
}

.dropdown-menu-title a:hover i {
    color: #222 !important;
}

.dropdown-menu-sub-footer {
    background: #eee;
}

.dropdown-menu ul,
.dropdown-menu ul li {
    padding: 0px !important;
    margin: 0px !important;
}

/*****서버 등록 서버오류 메뉴부*/

#sidebar-left {
background: #ffffff;
margin-left: 10px;
width: 100px;
cursor: pointer;
}

.sidebar-nav > ul{
    margin: 0px;
padding-bottom: 1px;
font-size: 14px;
}

.sidebar-nav > ul > li > ul {
    list-style: none;
margin: 0px;
display: none;
background: rgba(0,0,0,.25);
}

/*****pc chart***/

```

```
#includedContent{
    width: 300px;
    margin-left: 10px;
    margin-right: 1050px;
    background: #c6a299;
}
```

```
.wrapper-dropdown-3 {
    /* Size and position */
    position: relative;
    width: 200px;
    margin: 0 auto;
    padding: 10px;

    /* Styles */
    background: #fff;
    border-radius: 7px;
    border: 1px solid rgba(0,0,0,0.15);
    box-shadow: 0 1px 1px rgba(50,50,50,0.1);
    cursor: pointer;
    outline: none;

    /* Font settings */
    font-weight: bold;
    color: #ffffff;
}
```

```
.wrapper-dropdown-3:after {
    content: "";
    width: 0;
    height: 0;
    position: absolute;
    right: 15px;
    top: 50%;
    margin-top: -3px;
    border-width: 6px 6px 0 6px;
    border-style: solid;
    border-color: #8aa8bd transparent;
}
```

```
.wrapper-dropdown-3 .dropdown {
    /* Size & position */
    position: absolute;
    top: 140%;
    left: 0;
    right: 0;
```

```

/* Styles */
background: white;
border-radius: inherit;
border: 1px solid rgba(0,0,0,0.17);
box-shadow: 0 0 5px rgba(0,0,0,0.1);
font-weight: normal;
-webkit-transition: all 0.5s ease-in;
-moz-transition: all 0.5s ease-in;
-ms-transition: all 0.5s ease-in;
-o-transition: all 0.5s ease-in;
transition: all 0.5s ease-in;
list-style: none;

/* Hiding */
opacity: 0;
pointer-events: none;
}

.wrapper-dropdown-3 .dropdown:after {
  content: "";
  width: 0;
  height: 0;
  position: absolute;
  bottom: 100%;
  right: 15px;
  border-width: 0 6px 6px 6px;
  border-style: solid;
  border-color: #fff transparent;
}

.wrapper-dropdown-3 .dropdown:before {
  content: "";
  width: 0;
  height: 0;
  position: absolute;
  bottom: 100%;
  right: 13px;
  border-width: 0 8px 8px 8px;
  border-style: solid;
  border-color: rgba(0,0,0,0.1) transparent;
}

.wrapper-dropdown-3 .dropdown li a {
  display: block;
  padding: 10px;

```

```

    text-decoration: none;
    color: #8aa8bd;
    border-bottom: 1px solid #e6e8ea;
    box-shadow: inset 0 1px 0 rgba(255,255,255,1);
    -webkit-transition: all 0.3s ease-out;
    -moz-transition: all 0.3s ease-out;
    -ms-transition: all 0.3s ease-out;
    -o-transition: all 0.3s ease-out;
    transition: all 0.3s ease-out;
}

.wrapper-dropdown-3 .dropdown li i {
    float: right;
    color: inherit;
}

.wrapper-dropdown-3 .dropdown li:first-of-type a {
    border-radius: 7px 7px 0 0;
}

.wrapper-dropdown-3 .dropdown li:last-of-type a {
    border: none;
    border-radius: 0 0 7px 7px;
}

/* Hover state */

.wrapper-dropdown-3 .dropdown li:hover a {
    background: #f3f8f8;
}

/* Active state */

.wrapper-dropdown-3.active .dropdown {
    opacity: 100;
    pointer-events: auto;
}

/* No CSS3 support */

/*****pc info page****/

#includedContent2{

position:absolute; left:30%; overflow:hidden; background-color:#eeeeee;

}

```

/\*\*\*\*\*alert message\*\*\*\*\*/

```
#msg {
    position: fixed;
    opacity: 0;
    filter: alpha(opacity=0);
    width: 400px;
    top: -300px;
    left: 50%;
    margin-left: -200px;
    -webkit-transition: opacity 0.3s linear, top 0.3s ease-out, bottom 0.3s ease-out, margin-top 0.3s ease-out;
    -moz-transition: opacity 0.3s linear, top 0.3s ease-out, bottom 0.3s ease-out, margin-top 0.3s ease-out;
    -o-transition: opacity 0.3s linear, top 0.3s ease-out, bottom 0.3s ease-out, margin-top 0.3s ease-out;
    transition: opacity 0.3s linear, top 0.3s ease-out, bottom 0.3s ease-out, margin-top 0.3s ease-out;
    z-index: 100000000000;
}
```

```
#msg i {
    font-size: 20px;
    vertical-align: middle;
}
```

```
#msg span {
    font-size: 15px;
}
```

```
#msg.showed {
    opacity: 1;
    filter: alpha(opacity=100);
    top: 50px;
}
```

```
@media (min-width: 1200px) {
    #msg {
        width: 600px;
        margin-left: -300px;
    }
}
```

```
@media (max-width: 479px) {
    #msg {
        width: 300px;
    }
}
```

```
        margin-left: -150px;
    }
}
```

```
/*****기본부*****/
```

```
body {
    font-family: 'Open Sans', sans-serif;
    font-size: 13px;
    line-height: 24px;
    color: #400040;
    background-color: #fff;
}
```

```
h1, h2, h3, h4, h5, h6 {
    color: #333;
}
```

```
h2 {
    font-size: 50px;
    margin-bottom: 10px;
}
```

```
h3 {
    font-size: 18px;
}
```

```
.parallax {
    background-size: cover;
    background-repeat: no-repeat;
    background-position: center;
    background-attachment: fixed;
}
```

```
.parallax,
.parallax h1,
.parallax h2,
.parallax h3,
.parallax h4,
.parallax h5,
.parallax h6 {
    color: #fff;
}
```

```
.parallax input[type="text"],
.parallax input[type="text"]:hover,
```

```
.parallax input[type="email"],
.parallax input[type="email"]:hover,
.parallax input[type="url"],
.parallax input[type="url"]:hover,
.parallax input[type="password"],
.parallax input[type="password"]:hover,
.parallax textarea,
.parallax textarea:hover {
  font-weight: 300;
  color: #fff;
}
```

```
.btn {
  border: 0;
  border-radius: 0;
}
```

```
.btn.btn-primary:hover {
  background-color: #ff0080;
}
```

```
.navbar-nav li a:hover,
.navbar-nav li a:focus {
  outline:none;
  outline-offset: 0;
  text-decoration:none;
  background: #7a706e;
}
```

```
a {
  text-decoration: none;
  -webkit-transition: 300ms;
  -moz-transition: 300ms;
  -o-transition: 300ms;
  transition: 300ms;
}
```

```
a:focus,
a:hover {
  text-decoration: none;
  outline: none
}
```

```
section {
  padding: 90px 0;
}
```



```
.heading {  
    padding-bottom:90px;  
}
```

```
.preloader {  
    position: fixed;  
    top: 0;  
    left: 0;  
    right: 0;  
    bottom: 0;  
    z-index: 999999;  
    background: #fff;  
}
```

```
.preloader > i {  
    position: absolute;  
    font-size: 36px;  
    line-height: 36px;  
    top: 50%;  
    left: 50%;  
    height: 36px;  
    width: 36px;  
    margin-top: -15px;  
    margin-left: -15px;  
    display: inline-block;  
}
```

```
/*****HOME slider부분*****/
```

```
#home-slider {  
    overflow: hidden;  
    position: relative;  
}
```

```
#home-slider .caption {  
    position: absolute;  
    top: 50%;  
    margin-top: -148px;  
    left: 0;  
    right: 0;  
    text-align: center;  
    text-transform: uppercase;  
    z-index: 15;  
    font-size: 18px;  
    font-weight: 300;  
    color: #fff;
```

```

}
#home-slider .img-item{

    position: static;
    top: 5%;
    margin-top: -221px;
    left: 0;
    right: 0;
    z-index: 15;

}
#home-slider .img-item2{

    position: static;
    top: 5%;
    margin-top: -170px;
    margin-left: 560px;

}

#home-slider .caption h1 {
    color: #fff;
    font-size: 40px;
    font-weight: 200;
    margin-bottom: 10px;
    text-align: inherit;
}

.caption .btn-start {
    color: #fff;
    font-size: 14px;
    font-weight: 600;
    padding: 14px 40px;
    border: 1px solid #6e6d6c;
    border-radius: 4px;
    margin-top: 40px;
}

.caption .btn-start:hover {
    color: #fff
}

```

```
.carousel-fade .carousel-inner .item {  
  opacity: 0;  
  -webkit-transition-property: opacity;  
  transition-property: opacity;  
  background-repeat: no-repeat;  
  background-size: cover;  
  height: 2037px;
```

```
    margin: auto;  
}
```

```
.carousel-fade .carousel-inner .item:after {  
  content: " ";  
  position: absolute;  
  top: 0;  
  bottom: 0;  
  left: 0;  
  right: 0;  
  background: rgba(0,0,0,.7);  
}
```

```
.carousel-fade .carousel-inner .active {  
  opacity: 1;  
}
```

```
.carousel-fade .carousel-inner .active.left,  
.carousel-fade .carousel-inner .active.right {  
  left: 0;  
  opacity: 0;  
  z-index: 1;  
}
```

```
.carousel-fade .carousel-inner .next.left,  
.carousel-fade .carousel-inner .prev.right {  
  opacity: 100;  
}
```

```
.carousel-fade .carousel-control {  
  z-index: 1;  
}
```

```
.left-control, .right-control {  
  position: absolute;  
  top: 50%;  
  height: 40px;  
  width: 40px;  
  line-height: 48px;  
  border-radius: 50%;  
  border: 1px solid #fff;
```

```

z-index: 20;
font-size: 24px;
color: #fff;
text-align: center;
-webkit-transition: all 0.5s ease;
-moz-transition: all 0.5s ease;
-ms-transition: all 0.5s ease;
-o-transition: all 0.5s ease;
transition: all 0.5s ease;
}

.left-control {
  left: -51px
}

.right-control {
  right: -51px;
}

.left-control:hover,
.right-control:hover {
  color: #fff;
}

#home-slider:hover .left-control {
  left: 30px
}

#home-slider:hover .right-control {
  right: 30px
}

#home-slider .fa-angle-down {
  position: absolute;
  left: 50%;
  bottom: 50px;
  color: #fff;
  display: inline-block;
  width: 24px;
  margin-left: -12px;
  font-size: 24px;
  line-height: 24px;
  z-index: 999;
  -webkit-animation: bounce 3000ms infinite;
  animation: bounce 3000ms infinite;
}

```

```
.navbar-right li a {
  color: #fff;
  text-transform: uppercase;
  font-size: 14px;
  font-weight: 600;
  padding-top: 30px;
  padding-bottom: 30px;
}
```

```
.navbar-right li.active a {
  background-color: rgba(0,0,0,.2);
}
```

```
.navbar-brand h1 {
  margin-top: 1px;
```

```
}
.navbar-brand h2 {
  margin-left: 230px;
  margin-right: 230px;
  margin-top: 1px;
```

```
}
```

```
/*****서비스*****/
```

```
.service-icon {
  border-radius: 4px;
  color: #fff;
  display: inline-block;
  font-size: 60px;

  height: 90px;
  line-height: 90px;
  width: 90px;
  -webkit-transition: background-color 0.2s ease;
  transition: background-color 0.2s ease;
}
```

```
.our-services .col-sm-4:hover .service-icon {
  background-color: #333;
}
```

```
.our-services .col-sm-4 {
```

```
border-right:1px solid #f2f2f2;
border-bottom:1px solid #f2f2f2;
padding-bottom: 50px;
}
```

```
.our-services .col-sm-4:nth-child(4),
.our-services .col-sm-4:nth-child(5),
.our-services .col-sm-4:nth-child(6) {
border-bottom:0;
padding-top: 60px;
}
```

```
.our-services .col-sm-4:nth-child(3),
.our-services .col-sm-4:nth-child(6) {
border-right:0;
}
```

```
.service-info h3 {
margin-top: 35px;
}
```

```
/*****wow팀소개*****/
#team {
padding-top: 0;
}
```

```
.team-members {
margin-bottom: 15px;
}
```

```
.social-icons {
margin-top:30px;
text-align: center;
}
```

```
.social-icons ul {
list-style: none;
padding: 0;
margin: 0;
display: inline-block;
}
```

```
.social-icons ul li {
float: left;
margin-right: 8px;
}
```

```
.social-icons ul li:last-child {  
    margin-right: 0;  
}
```

```
.social-icons ul li a {  
    color: #fff;  
    background-color: #d9d9d9;  
    height: 40px;  
    width: 40px;  
    line-height: 36px;  
    display: list-item;  
    font-size: 16px;  
    opacity: 0.8;  
}
```

```
.social-icons ul li a:hover {  
    opacity: 1;  
    -webkit-transform: scale(1.2);  
    transform: scale(1.2);  
}
```

```
.team-member {  
    text-align: center;  
    color: #333;  
    font-size: 14px;  
}
```

```
.team-member:hover .social-icons ul li a.facebook {  
    background-color: #3b5999;  
}
```

```
.team-member:hover .social-icons ul li a.twitter {  
    background-color: #2ac6f7;  
}
```

```
.team-member:hover .social-icons ul li a.linkedin {  
    background-color: #ff5b92;  
}
```

```
.team-member:hover .social-icons ul li a.rss {  
    background-color: #ff6b00;  
}
```

```
#team .img-responsive {  
    width: 100%;  
}
```

```
.member-info h3 {  
    margin-top: 35px;  
}
```

```
.member-info h4 {  
    font-size: 14px;  
    margin-bottom: 15px;  
    color: #999;  
}
```

```
/*****Features CSS*****/
```

```
#features {  
    text-align: center;  
    background-image: url(../images/features-bg.jpg);  
}
```

```
#features i {  
    font-size: 48px;  
}
```

```
#features h3 {  
    margin-top: 15px;  
    font-size: 30px;  
    margin-bottom: 7px;  
    color: #fff;  
}
```

```
#features .slider-overlay {  
    opacity: 0.8;  
}
```

```
/*****Pricing Table CSS*****/
```

```
.pricing-table {  
    text-align: center;  
}
```

```
.single-table {  
    padding: 30px 20px 20px;  
    border: 1px solid #f2f2f2;  
}
```

```
.single-table h3 {  
    margin-top: 0;  
    padding: 0;  
    font-size: 18px;  
    text-transform: uppercase;
```



```
    margin-bottom: 30px;
}
```

```
.price {
    font-size: 36px;
    line-height: 36px;
}
```

```
.price span {
    font-size: 14px;
    line-height: 14px;
}
```

```
.single-table ul {
    list-style: none;
    padding: 0;
    margin: 30px 0;
}
```

```
.single-table ul li {
    line-height: 30px;
}
```

```
.single-table.featured {
    color: #fff;
}
```

```
.single-table.featured h3 {
    color: #fff;
}
```

```
.single-table.featured .btn.btn-primary {
    background-color: #fff;
}
```

```
/*****Twitter CSS*****/
```

```
#twitter {
    background-image: url(../images/twitter-bg.jpg);
}
```

```
#twitter > div {
    text-align: center;
    position: relative;
}
```

```
#twitter-carousel {
```

```
    position: relative;
    z-index: 15
}
```

```
.twitter-icon {
    position: relative;
    z-index: 15;
    color: #fff;
}
```

```
.twitter-icon .fa-twitter {
    font-size: 24px;
    height: 64px;
    width: 64px;
    line-height: 65px;
    border-radius: 50%;
    position: relative;
}
```

```
.twitter-icon .fa-twitter:after {
    position: absolute;
    content: "";
    border-width: 8px;
    border-style: solid;
    left: 24px;
    bottom: -14px;
}
```

```
#twitter-carousel .item {
    padding: 0 55px;
}
```

```
#twitter-carousel .item a {
    color: #fff;
}
```

```
.twitter-icon h4 {
    text-transform: uppercase;
    margin-top: 25px;
    margin-bottom: 25px;
    color: #fff;
}
```

```
.twitter-left-control,
.twitter-right-control {
    position: absolute;
```

```

    top: 50%;
    color: #fff;
    border: 1px solid #fafafa;
    height: 34px;
    width: 34px;
    line-height: 31px;
    margin-top: -17px;
    font-size: 18px;
    border-radius: 50%;
    z-index: 15
}

.twitter-left-control {
    left: 80px;
}

.twitter-right-control {
    right: 80px
}

.twitter-left-control:hover, .twitter-right-control:hover {
    color: #fff;
}

/*****고객상담*****/
#contact {
    padding-top: 45px;
    padding-bottom: 0;
}

#google-map {
    height: 350px;
}

#contact-us {
    background-image: url(../images/contact-bg.jpg);
    padding-bottom: 90px;
}

#contact-us .heading {
    padding-top: 95px;
}

.form-control {
    background-color: transparent;
    border-color: rgba(255,255,255,.1);

```

```
height: 50px;
border-radius: 0;
box-shadow: none;
}
```

```
textarea.form-control {
  min-height: 180px;
  resize:none;
}
```

```
.form-group {
  margin-bottom: 30px;
}
```

```
.contact-info {
  padding-left:70px;
  font-weight: 300;
}
```

```
ul.address {
  margin-top: 30px;
  list-style: none;
  padding: 0;
  margin: 0;
}
```

```
.contact-info ul li {
  margin-bottom: 8px;
}
```

```
.contact-info ul li a {
  color: #fff;
}
```

```
.btn-submit {
  display: block;
  padding: 12px;
  width: 100%;
  color: #fff;
  border:0;
  margin-top: 40px;
}
```

```
#footer {
  color:#fff;
}
```

```
.footer-top {
  position: relative;
  padding:30px 0
}

#footer .footer-bottom {
  background-color: #fff;
  padding: 20px 0 10px;
}

#footer .footer-bottom a:hover {
  text-decoration: underline;
}

.footer-logo {
  display: inline-block;
  margin-bottom: 5px;
}

#footer .social-icons {
  margin-top: 15px;
}

#footer .social-icons ul {
  list-style: none;
  padding: 0;
  margin: 0;
}

#footer .social-icons ul li a {
  background-color: rgba(0,0,0,.2);
  border-radius: 4px;
  line-height: 33px;
}

#footer .social-icons ul li a:hover {
  color: #fff
}

#footer .social-icons ul li a.envelope:hover {
  background-color: #CECB26;
}

/*Presets*/
```

---

[diskusage\_data.jsp]

```
<%@ page language="java" contentType="text/html; charset=EUC-KR"
    pageEncoding="EUC-KR"%>
<jsp:useBean id="dao" class="pcdetail.pcdetail2DAO" />
<%
    int pcno = Integer.parseInt((String) session.getAttribute("pcno"));
    StringBuilder sb = new StringBuilder();
    long[] diskusage = dao.printdiskusage(pcno);
    String[] reg_date = dao.printreg_date(pcno);
    sb.append("[['사용/미사용','남은 공간'],");
    sb.append("[\" + \"사용가능\" + \",\" + diskusage[0] + \",\");
    sb.append("[\" + \"사용불가\" + \",\" + diskusage[1] + \",\");
    sb.append("]"); %>
<%=sb.toString()%>
```

---

[diskusage.jsp]

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!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=UTF-8">
<title>Insert title here</title>
</head>
<script type=
"text/javascript" src="http://code.jquery.com/jquery-1.8.2.min.js"></script>
<script type="text/javascript" src="http://www.google.com/jsapi"></script>
<script type="text/javascript">
    google.load('visualization', '1', {packages: ['corechart']});

    function drawchart(dataFromAjax){
        var data_t = google.visualization.arrayToDataTable(dataFromAjax);
        var option_t = {
            title:'디스크 사용량',
            backgroundColor:{stroke:'#99FF33'},
            pieHole: 0.4,
            chartArea:{left:40,width:'100%',height:'84%'},
            tooltip: {textStyle: {fontName: 'TimesNewRoman',fontSize: 20,bold: true}}
        };
        var chart_t = new
google.visualization.PieChart(document.getElementById('diskusage'));
        chart_t.draw(data_t, option_t);
    }
}
```

```

function drawInit(){
    var data = null;
    var table_data = null;

    $.ajax({
        url: '../detail/diskusage_data.jsp',
        data: {},
        success: function(res) {
            table_data = eval("(" + res + ")");
            drawchart(table_data);
        }
    });
}

google.setOnLoadCallback(drawInit);
setInterval(function() {drawInit(); }, 1000);
</script>
<body>
<div id="diskusage"> </div>
</body>
</html>

```

-----

[downZIP.jsp]

```

<%@ page language="java" contentType="text/html; charset=EUC-KR"
    pageEncoding="EUC-KR"%>
<%@ page import="java.io.*"%>
<%@ page import="java.text.*" %>
<%@ page import="java.lang.*" %>
<%@ page import="java.util.*" %>
<%@ page import="java.net.*" %>
<!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>
</head>
<body>
    <%
        //파일 업로드된 경로
        String root = "C:\\\\Users\\User\\Documents\\SRM\\";
        String savePath = root;
        // 서버에 실제 저장된 파일명
        String filename = "SRM.zip";
        // 실제 내보낼 파일명
    %>

```

```

String orgfilename = "SRM.zip";

InputStream in = null;
OutputStream os = null;
File file = null;
boolean skip = false;
String client = "";

try {    // 파일을 읽어 스트림에 담기
    try {
        file = new File(savePath, filename);
        in = new FileInputStream(file);
    } catch (FileNotFoundException fe) {
        skip = true;
    }
    client = request.getHeader("User-Agent");
    // 파일 다운로드 헤더 지정
    response.reset();
    response.setContentType("application/octet-stream");
    response.setHeader("Content-Description", "JSP Generated Data");

    if (!skip) { // IE
        if (client.indexOf("MSIE") != -1) {
response.setHeader("Content-Disposition", "attachment; filename=" +
    new String(orgfilename.getBytes("KSC5601"), "ISO8859_1"));
        } else { // 한글 파일명 처리
            orgfilename = new String(orgfilename.getBytes("utf-8"), "iso-8859-1");
            response.setHeader("Content-Disposition", "attachment; filename=₩" + orgfilename + "₩");
            response.setHeader("Content-Type", "application/octet-stream; charset=utf-8"); }

        response.setHeader("Content-Length", "" + file.length());

        os = response.getOutputStream();
        byte b[] = new byte[(int) file.length()];
        int leng = 0;

        while ((leng = in.read(b)) > 0) {
            os.write(b, 0, leng);
        }
    } else {
        response.setContentType("text/html; charset=UTF-8");
        out.println("<script language='javascript'>alert('파일을 찾을 수 없습니다');
        history.back();</script>");
        in.close();
        os.close();
    } catch (Exception e) {

```



```

        e.printStackTrace();
    }
    %>
</body>
</html>

```

-----

[index.jsp]

```

<jsp:forward page="/loginForm" />

```

-----

[loginform.jsp]

```

<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<%
    String publicKeyModulus = (String) request.getAttribute("publicKeyModulus");
    String publicKeyExponent = (String) request.getAttribute("publicKeyExponent");
%>
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=EUC-KR">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <meta name="description" content="">
    <meta name="author" content="">
<title>Insert title here</title>
    <script type="text/javascript" src="js/jquery.js"></script>
    <script type="text/javascript" src="js/bootstrap.min.js"></script>
    <script type="text/javascript" src="http://maps.google.com/maps/api/js?sensor=true"></script>
    <script type="text/javascript" src="js/jquery.inview.min.js"></script>
    <script type="text/javascript" src="js/wow.min.js"></script>
    <script type="text/javascript" src="js/mousescroll.js"></script>
    <script type="text/javascript" src="js/smoothscroll.js"></script>
    <script type="text/javascript" src="js/jquery.countTo.js"></script>
    <script type="text/javascript" src="js/lightbox.min.js"></script>
    <script type="text/javascript" src="js/main.js"></script>
    <script type="text/javascript" src="/js/rsa/jsbn.js"></script>
<script type="text/javascript" src="/js/rsa/rsa.js"></script>
<script type="text/javascript" src="/js/rsa/prng4.js"></script>
<script type="text/javascript" src="/js/rsa/rng.js"></script>
<script type="text/javascript" src="/js/login.js"></script>
    <link href="css/bootstrap.min.css" rel="stylesheet">
    <link href="css/animate.min.css" rel="stylesheet">
    <link href="css/font-awesome.min.css" rel="stylesheet">
    <link href="css/lightbox.css" rel="stylesheet">

```

```

<link href="css/main.css" rel="stylesheet">
<link id="css-preset" href="css/mintcss/mint.css" rel="stylesheet">
<link href="css/responsive.css" rel="stylesheet">
<link href='http://fonts.googleapis.com/css?family=Open+Sans:300,400,600,700' rel='stylesheet'
type='text/css'>
<link rel="shortcut icon" href="images/favicon.ico">
<link rel="stylesheet" href="http://
cdnjs.cloudflare.com/ajax/libs/font-awesome/4.4.0/css/font-awesome.min.css">
<!-- login link -->
<link rel="stylesheet" href="css/login/style.css">
<script src="js/modernizr.js"></script>
<script src=
"http://ajax.googleapis.com/ajax/libs/jquery/1.11.0/jquery.min.js"></script>
<script src="js/login1.js"></script> <!-- Gem jQuery -->
<!-- ----- -->
<style>
ul{
    list-style:none;
}
</style>
</head>
<body>
<div class="main-nav">
    <div class="container">
        <div class="navbar-header">
            <button type="button" class="navbar-toggle" data-toggle="collapse"
data-target=".navbar-collapse">
                <span class="sr-only">Toggle navigation</span>
                <span class="icon-bar"></span>
                <span class="icon-bar"></span>
                <span class="icon-bar"></span>
            </button>
            <a class="navbar-brand"><h1></h1></a>
            <a class="navbar-brand" href="/index.jsp">
                <h2> </h2></a>

        </div>
        <div class="collapse navbar-collapse">
            <ul class="nav navbar-nav navbar-right">
                <li><a class="cd-signin" href="#0">로그인</a></li>
                <li><a class="cd-signup" href="#0">회원가입</a></li>
            </ul></div> </div> </div>
<!--.preloader-->
<div class="preloader"> <i class="fa fa-circle-o-notch fa-spin"></i></div>
<!--.preloader-->
<header id="home">

```

```

    <div class="main-nav">
        <div id="join"></div>
    <!-- 로그인 부 -->
    <div id="login">
    <div class="cd-user-modal">
        <div class="cd-user-modal-container">
            <ul class="cd-switcher">
                <li><a class="cd-signin" href="#0">로그인</a></li>
                <li><a class="cd-signup" href="#0">회원가입</a></li>
            </ul>
            <div id="cd-login"> <!-- log in form -->
                <div class="cd-form">
                    <p class="fieldset">
                        <label class="image-replace cd-username" for="signin-id">E-mail</label>
                        <input class="full-width has-padding has-border" name="email"
id="signin-email" type="email" placeholder="E-mail"></p>
                        <p class="fieldset">
<label class="image-replace cd-password" for="signin-password">Password</label>
                        <input class="full-width has-padding has-border" name="pw"
id="signin-password" type="password" placeholder="Password">
                        <a href="#0" class="hide-password">Show</a> </p>
                        <p class="fieldset">
                            <input type="hidden" id="rsaPublicKeyModulus" value="<%=publicKeyModulus%>" />
                            <input type="hidden" id="rsaPublicKeyExponent" value="<%=publicKeyExponent%>" />
                            <form id="securedindex" name="securedindex" action=
"<%=request.getContextPath()%>/login" method="post" style="display: none;">
                            <input type="hidden" name="securedUsername" id="securedUsername" value="" />
                            <input type="hidden" name="securedPassword" id="securedPassword" value="" />
                            </form>
                            <a href="/loginFailure.jsp" onclick="validateEncryptedForm(); return false;">
                                <input class="full-width" type="submit" value="Login"></a>
                            </p>
                        <p class="cd-form-bottom-message"><a href="#0">비밀번호 찾기</a></p>
                        </div>
                    </div>
                    <div id="cd-signup"> <!-- 회원가입 form -->
                        <form class="cd-form" action="/join/joinOK.jsp" method=post>
                            <p class="fieldset">
<label class="image-replace cd-username" for="signup-username">Username</label>
                            <input class="full-width has-padding has-border" name="name"
id="signup-username" type="text" placeholder="Username"></p>
                            <p class="fieldset">
<label class="image-replace cd-email" for="signup-email">E-mail</label>
                            <input class="full-width has-padding has-border" name="email"
id="signup-email" type="email" placeholder="E-mail"></p>
                            <p class="fieldset"><label class="image-replace cd-password" for="signup-password">

```

```

Password</label>
        <input class="full-width has-padding has-border" name="pw"
id="signup-password" type="password" placeholder="Password">
        <a href="#0" class="hide-password">Show</a> </p>
    <p class="fieldset">
    <input class="full-width has-padding" type="submit" value="회 원 가 입"> </p>
    </form> </div> <!-- cd-signup -->
    <div id="cd-reset-password"> <!-- reset password form -->
        <p class="cd-form-message">비밀번호를 찾으시려면 기입 해 주세요.</p>
    <form class="cd-form" action="/find/findPWP.jsp">
        <p class="fieldset">
            <label class="image-replace cd-email" for="reset-email">E-mail</label>
            <input class="full-width has-padding has-border" name="email" id="reset-email" type="email"
placeholder="E-mail"> </p>
        <p class="fieldset">
        <input class="full-width has-padding" type="submit" value="비밀번호 재발급 받기"> </p>
    </form>
    <p class="cd-form-bottom-message"> <a href="#0">로그인으로 돌아가기</a> </p>
    </div> <!-- cd-reset-password -->
    <a href="#0" class="cd-close-form">Close</a>
    </div>
    </div>
    <div id="home-slider" class="carousel slide carousel-fade" data-ride="carousel">
        <div class="carousel-inner">
            <div class="item active" style="background-image: url(images/slider/s1.png)">
                <div class="caption">
                    <h1 class="animated fadeInLeftBig">SRM의 강력한<span>실시간 모니터링</span>기능</h1>
                    <a data-scroll class="btn btn-start animated fadeInUpBig" href="#services">Start now</a> </div>
                </div>
                <div class="item" style="background-image: url(images/slider/s2.png)">
                    <div class="caption">
                        <div class="img-item">
                             </div>
                        <h1 class="animated fadeInLeftBig">SRM의<span>원격 제어</span>기능</h1>
                        <p class="animated fadeInRightBig">쉽고 간편한 원격제어 서비스</p>
                        <a data-scroll class="btn btn-start animated fadeInUpBig" href="#services">Start
now</a> </div> </div>
                    <div class="item" style="background-image: url(images/slider/s3.png)">
                        <div class="caption">
                            <div class="img-item2">
                                 </div>
                                <h1 class="animated fadeInLeftBig">SRM의 <span>무료</span>서비스</h1>
                                <p class="animated fadeInRightBig">이 모든 기능을 무료로 사용하세요!</p>
                                <a data-scroll class="btn btn-start animated fadeInUpBig" href="#services">Start
now</a> </div> </div> </div> </div>

```

```

        <a      class="left-control"      href="#home-slider"      data-slide="prev"> <i      class="fa
fa-angle-left"> </i> </a>
        <a      class="right-control"      href="#home-slider"      data-slide="next"> <i      class="fa
fa-angle-right"> </i> </a>
<a id="tohash" href="#services"> <i class="fa fa-angle-down"> </i> </a>
</div> <!--/#home-slider-->
<div class="main-nav">
    <div class="container">
        <div class="navbar-header">
            <button      type="button"      class="navbar-toggle"      data-toggle="collapse"
data-target=".navbar-collapse">
                <span class="sr-only">Toggle navigation</span>
                <span class="icon-bar"> </span>
                <span class="icon-bar"> </span>
                <span class="icon-bar"> </span>
            </button>
            <a class="navbar-brand"> <h1>  </h1> </a>
            <a class="navbar-brand" href="/index.jsp">
                <h2> 
</h2> </a> </div>
            <div class="collapse navbar-collapse">
                <ul class="nav navbar-nav navbar-right">
                    <li class="scroll active"> <a href="#home">Home</a> </li>
                    <li class="scroll"> <a href="#services">Service</a> </li>
                    <li class="scroll"> <a href="#team">Team</a> </li>
                    <li class="scroll"> <a href="#contact">Contact</a> </li> </ul> </div> </div>
        </div> <!--/#main-nav-->
</header> <!--/#home-->
<section id="services">
    <div class="container">
        <div class="heading wow fadeInUp" data-wow-duration="1000ms" data-wow-delay="300ms">
            <div class="row">
                <div class="text-center col-sm-8 col-sm-offset-2">
                    <h2>Our Services</h2>
                    <h4><b>서비스전, 아래 설치 파일을 받아주세요.</b></h4>
                    <div class="main-nav"> </div> </div> </div> </div>
            <div class="text-center our-services">
                <div class="row">
                    <div      class="col-sm-4      wow      fadeInDown"      data-wow-duration="1000ms"
data-wow-delay="300ms" onclick="location='/down/downZIP.jsp'">
                        <div class="service-icon">
                            <p><p> <i class="fa fa-bar-chart"> </i> </div>
                            <div class="service-info">
                                <h3><b>SRM.zip</b></h3>
                                <h5>클라이언트용 설치파일</h5> </div> </div>
                        <div      class="col-sm-4      wow      fadeInDown"      data-wow-duration="1000ms"

```

```

data-wow-delay="450ms" onclick="location='./down/downPPT.jsp'">
    <div class="service-icon">
        <p><p><i class="fa fa-list-alt"></i></div>
    <div class="service-info">
        <h3><b>SRM.pptx</b></h3>
        <h5>프로그램 소개 PPT</h5></div></div>
<div class="col-sm-4 wow fadeInDown" data-wow-duration="1000ms"
data-wow-delay="550ms" onclick="window.open
('https://chrome.google.com/webstore/detail/ie-tab/hehijbfgiekmjfkfjpbkbammjbdenadd?hl=ko',
'_blank')"><div class="service-icon">
    <p><p><i class="fa fa-internet-explorer"></i></div>
    <div class="service-info"><h3><b>IE tab</b></h3>
    <h5>IE tab 설치</h5></div></div></div></div></div>
</section><!--/#services-->
<section id="team">
    <div class="container">
        <div class="row">
            <div class="heading text-center col-sm-8 col-sm-offset-2 wow fadeInUp"
data-wow-duration="1200ms" data-wow-delay="300ms">
                <h2>W.W.W Team을 소개합니다.</h2></div></div>
            <div class="team-members">
                <div class="row">
                    <div class="col-sm-3">
                        <div class="team-member wow flipInY" data-wow-duration="1000ms"
data-wow-delay="300ms">
                            <div class="member-image">
                                </div>
                                <div class="member-info">
                                    <h3><b>이 상 윤</b></h3> <h4>W.W.W 팀장</h4>
                                    <li><i class="fa fa-envelope"></i> <span> Email:</span> <a
href="mailto:someone@yoursite.com">power10267@naver.com</a></li></div>
                                    <div class="social-icons"><ul>
                                        <li><a class="facebook" href="#"><i class="fa fa-facebook"></i></a></li>
                                        <li><a class="twitter" href="#"><i class="fa fa-twitter"></i></a></li></ul></div>
                                </div></div>
                                <div class="col-sm-3">
                                    <div class="team-member wow flipInY" data-wow-duration="1000ms"
data-wow-delay="500ms">
                                        <div class="member-image">
                                            
                                        </div>
                                        <div class="member-info">
                                            <h3><b>박 소 린</b></h3> <h4>조 원</h4>
                                            <li><i class="fa fa-envelope"></i> <span> Email:</span> <a
href="mailto:someone@yoursite.com">soso9430@naver.com</a></li></div>
                                            <div class="social-icons"><ul>

```

```

        <li><a class="facebook" href="#"><i class="fa fa-facebook"></i></a></li>
<li><a class="twitter" href="#"><i class="fa fa-twitter"></i></a></li></ul></div></div>
</div><div class="col-sm-3">
    <div class="team-member wow flipInY" data-wow-duration="1000ms"
data-wow-delay="800ms">
        <div class="member-image">
            </div>
            <div class="member-info">
<h3><b>최 수 지</b></h3> <h4>조 원</h4>
                <li><i class="fa fa-envelope"></i> <span> Email:</span><a
href="mailto:someone@yoursite.com">queenc0222naver.com</a></li>
                <p></p></div><div class="social-icons"> <ul>
<li><a class="facebook" href="#"><i class="fa fa-facebook"></i></a></li>
<li><a class="twitter" href="#"><i class="fa fa-twitter"></i></a></li> </ul></div></div>
                </div><div class="col-sm-3">
                    <div class="team-member wow flipInY" data-wow-duration="1000ms"
data-wow-delay="1100ms">
                        <div class="member-image">
                            </div>
                            <div class="member-info">
                                <h3><b>유 리 나</b></h3><h4>조 원</h4>
                                <li><i class="fa fa-envelope"></i> <span> Email:</span><a
href="mailto:someone@yoursite.com">snrns12@naver.com</a></li><p></p>
                                </div><div class="social-icons">
                                    <ul><li><a class="facebook" href="#www.naver.com"><i class="fa fa-facebook"></i></a></li>
                                    <li><a class="twitter" href="#"><i class="fa fa-twitter"></i></a></li> </ul></div>
                                </div></div></div><div class="col-sm-3">
                                    <div class="team-member wow flipInY" data-wow-duration="1000ms"
data-wow-delay="1100ms">
                                        <div class="member-image">
                                            </div>
                                            <div class="member-info">
                                                <h3><b>서 유 정</b></h3><h4>조 원</h4>
                                                <li><i class="fa fa-envelope"></i> <span> Email:</span><a
href="mailto:someone@yoursite.com">dbwj7265@naver.com</a></li><p></p>
                                                </div><div class="social-icons">
                                                    <ul><li><a class="facebook" href="#"><i class="fa fa-facebook"></i></a></li>
                                                    <li><a class="twitter" href="#"><i class="fa fa-twitter"></i></a></li></ul></div></div>
                                                </div></div></div></section><!--/#team-->
</div><div id="contact">
    <div id="google-map" class="wow fadeIn" data-latitude="37.714393"
data-longitude="126.889897" data-wow-duration="1000ms" data-wow-delay="400ms"></div><div
id="contact-us" class="parallax">
        <div class="container"> <div class="row">
            <div class="heading text-center col-sm-8 col-sm-offset-2 wow fadeInUp"
data-wow-duration="1000ms" data-wow-delay="300ms">

```

```

        <h2>고객 상담</h2>
        <p>오류가 발생했거나, 기타 문의사항이 있을 시 이쪽 주소로 우편 혹은 연락 해 주세
요. 감사합니다.</p> </div></div>
        <div class="contact-form wow fadeIn" data-wow-duration="1000ms"
data-wow-delay="600ms"><div class="row"> <div class="col-sm-6">
<ul class="address"><li><i class="fa fa-map-marker"></i> <span> Address:</span> 경기도 고양시
덕양구 동현로 305 세종관 833호</li>
<li><i class="fa fa-globe"></i> <span> 본교 홈페이지:</span> <a
href="http://www.joongbu.ac.kr/">www.joongbu.ac.kr</a></li></ul></div>
</div></div></div> </section><!--/#contact-->
<footer id="footer">
    <div class="footer-top wow fadeInUp" data-wow-duration="1000ms" data-wow-delay="300ms">
        <div class="container text-center">
            <div class="footer-logo">
<a href="/index.jsp"></a>
</div></div> </div> <div class="footer-bottom">
    <div class="container">
        <div class="row">
            <div class="col-sm-6">
<p>2016년 중부대학교 정보보호학과 졸업작품 2조</p></div></div></div></div>
</footer></body></html>

```

-----

[loginProc.jsp]

```

<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8" import="etc.Encrypt"%>
<jsp:useBean id="dao" class="userinfo.userinfoDAO"/>
<jsp:useBean id="pidao" class="pcinfo.pcinfoDAO"/>

<!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>loginProc.jsp</title>
</head>
<body>
<%
    int rst = 0;
    Encrypt ec = new Encrypt();
    String str = null;
    String email = (String)request.getAttribute("username");
    String pw = ec.sha512((String)request.getAttribute("password"));

    if(email==str || pw==str){
%>
        <script type="text/javascript">
            alert("오류:: 이메일이나 비밀번호를 입력해주세요.");
            location.href="/index.jsp"
        </script>
    <%
    }
    else{
        rst = dao.loginCheck(email, pw);
        if(rst == 2){
            session.setAttribute("email", email);
            int userno = dao.selectUserno(email);
            int pcno = pidao.firstPC(userno);
        %>

```



```

        <script type="text/javascript">
            location.href="/main/main.jsppcno=<%= pcno %>";
        </script>
    <% }else if(rst == 1){ %>
        <script type="text/javascript">
            alert("오류: 비밀번호가 틀렸습니다.");
            location.href="/index.jsp"
        </script>
    <% }else{ %>
        <script type="text/javascript">
            alert("오류: 존재하지 않은 계정입니다.");
            location.href="/index.jsp"
        </script>
    <% }
    } %>
</body>
</html>

```

-----

[detail.jsp]

```

<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<jsp:useBean id="pidao" class="pcinfo.pcinfoDAO"/>
<jsp:useBean id="memdao" class="userinfo.userinfoDAO"/>
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
<meta name="description" content="">
<meta name="author" content="">
<title>Insert title here</title>
<script type="text/javascript" src="../js/jquery.js"></script>
    <script type="text/javascript" src="../js/bootstrap.min.js"></script>
    <script type="text/javascript" src="http://maps.google.com/maps/api/js?sensor=true"></script>
    <script type="text/javascript" src="../js/jquery.inview.min.js"></script>
    <script type="text/javascript" src="../js/wow.min.js"></script>
    <script type="text/javascript" src="../js/mouseScroll.js"></script>
    <script type="text/javascript" src="../js/smoothscroll.js"></script>
    <script type="text/javascript" src="../js/jquery.countTo.js"></script>
    <script type="text/javascript" src="../js/lightbox.min.js"></script>
    <script type="text/javascript" src="../js/main.js"></script>
    <script type="text/javascript" src="../js/alert.js"></script>
    <link href="../css/bootstrap.min.css" rel="stylesheet">
    <link href="../css/animate.min.css" rel="stylesheet">
    <link href="../css/font-awesome.min.css" rel="stylesheet">
    <link href="../css/lightbox.css" rel="stylesheet">
    <link href="../css/main.css" rel="stylesheet">
    <link id="css-preset" href="../css/mintcss/mint.css" rel="stylesheet">
    <link href="../css/responsive.css" rel="stylesheet">
    <link rel="stylesheet" href="../css/login/style.css">

```

```

        <link rel="stylesheet" href="../css/mainbody.css">
<link rel="stylesheet" href="../css/login/style.css">
<script src="../js/modernizr.js"> </script>
<script src=
"http://ajax.googleapis.com/ajax/libs/jquery/1.11.0/jquery.min.js"> </script>
<script src="../js/addpc.js"> </script> <!-- Gem jQuery -->
<link href='http://fonts.googleapis.com/css?family=Open+Sans:300,400,600,700' rel='stylesheet'
type='text/css'>
<link rel="shortcut icon" href="../images/favicon.ico">
<link rel="stylesheet" type="text/css" href="../css/bootstrap-msg.css"> </link>
<script type="text/javascript" src="../js/bootstrap-msg.js"> </script>
<script src="../js/jquery.js"> </script>
<script type="text/javascript" src="../js/time.js"> </script>
<style>
ul{
    list-style:none;
}
</style>
<style>
#nav {
    line-height:30px;
    width:340px;
    float:left;
    padding:10px;
}
#section {
    float:left;
    padding:10px;
}
</style>
</head>
<body onload="realTime();">
<%
    String email = (String)session.getAttribute("email");
    int usernum = memdao.selectUsernum(email);
    String name = memdao.selectName(email);
    String pcno = request.getParameter("pcno");
    session.setAttribute("pcno", pcno);
    String pcname = pidao.selectname(Integer.parseInt(pcno));
%>
<div class="main-nav">
    <div class="container">
        <div class="navbar-header">
            <button type="button" class="navbar-toggle" data-toggle="collapse"
data-target=".navbar-collapse">
                <span class="sr-only">Toggle navigation</span>

```

```
<span class="icon-bar"></span>  
<span class="icon-bar"></span>  
</button>  
    <a class="navbar-brand"><h1></h1></a>  
<a class="navbar-brand" href="../../main/main.jsp?pcno=<%= pidao.firstPC(userno) %>">  
    <h2> </h2></a>  
  
</div>  
<ul class="nav navbar-nav navbar-right">  
    <li class="dropdown">  
        <a class="btn dropdown-toggle" data-toggle="dropdown" href="#">  
            <i class="fa fa-user"></i> <%= name %>  
            <span class="caret"></span>  
        </a>  
        <ul class="dropdown-menu">  
            <li class="dropdown-menu-title">  
                <span><%= email %></span>  
            </li>  
            <li><a          data-target="#pwinput"           data-toggle="modal"><i  
class="halflings-icon user"></i> Profile</a></li>  
            <li><a      href="../../login/logout.jsp"><i      class="halflings-icon   off"></i>  
Logout</a></li>  
        </ul>  
    </li>  
</ul>  
</div>  
</div>  
<!-------end header----- -->  
<!-- -- left menu start-->  
<div id="nav">  
    <div class="sidebar-holder">  
        <ul class="nav nav-list">  
            <!-- 네비 왼쪽 -->  
            <br>  
            <li class="nav-toggle">  
                <fieldset data-icon="fa"> &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;&~  
                    <button type="button" class="btn btn-info btn-lg" data-toggle="modal"  
data-target="#server-add">서버 등록</button>  
                    <button class="btn btn-info btn-lg" onclick="window.open('../detail/state.jsp',  
'_blank','width=345px, height=600px, left=1200px, top=200px')">오류 정보<span class="badge  
bg-primary pull-right" id="count"></span></button>  
                    <span id="warning"></span>  
                </fieldset>  
            </li><br>  
            <li class="list-subheading">
```



```

        <button type="button" class="close" data-dismiss="modal"> &times;</button>
<h4 class="modal-title"> <i class="material-icons">report</i>비밀번호 입력하세요</h4>
    </div>
    <div class="modal-body">
<p><form class="cd-form" id="cd-pc" action="../mypage/checkPW.jsp" method="post">
    <p class="fieldset">
        <label> 사용자 비밀번호</label>
        <input class="full-width has-padding has-border" id="pw" name="pw"
type="password" placeholder="password">
        <span class="cd-error-message">[Error]:: 입력 해 주세요</span></p>
    <p class="fieldset">
        <input class="full-width" type="submit" value="Mypage">
    </p></form></div></div></div></div>
</body>
</html>

```

-----

[pcinfo.jsp]

```

<%@ page language="java" contentType="text/html; charset=EUC-KR"
    pageEncoding="EUC-KR"%>
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<jsp:useBean id="dao" class="pcdetail.pcdetail1DAO" />
<jsp:useBean id="pdao" class="pcinfo.pcinfoDAO" />
<jsp:useBean id="vo" class="pcdetail.pcdetail1VO" />
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=EUC-KR">
<title>Insert title here</title>
<meta name="viewport" content="width=device-width, initial-scale=1">
<link rel="stylesheet" href="http://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/css/bootstrap.min.css">
<script src=
"http://ajax.googleapis.com/ajax/libs/jquery/1.12.0/jquery.min.js"></script>
<script src=
"http://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min.js"></script>
<link rel="stylesheet" href="../css/mainpage.css">
</head>
<%
    int pcno = Integer.parseInt((String) session.getAttribute("pcno"));
    vo = dao.setinfo(pcno);
    String pcname = pdao.selectname(pcno);
    int i = 0;
%>
<body>
    <div class="container">
        <%

```

```

if (pcno == 0) {
%>
<div id="step1">
    <div class="col-sm-4 wow fadeInDown" data-wow-duration="1000ms" data-wow-delay="300ms">
        <div class="download-info">
            <h3><b>STEP1 : 서버등록</b></h3>
            <p><h4>1. 서버등록 버튼을 클릭해주세요.</h4></p>
            <div class="service"></div> </div>
            <div class="download-info">
<p><h4>2. 관리대상 서버의 IP와 MAC주소를 기입하여 서버를 등록해주세요.</h4></p><br>
            <div class="server"></div></div></div>
            <div class="col-sm-4 wow fadeInDown" data-wow-duration="2000ms" data-wow-delay="350ms">
                <div class="download-info">
                    <h3><b>STEP2 : 서비스 설치</b></h3>
                    <p><h4>3. 아래의 설치파일을 관리대상서버에 받아주세요.</h4><p>
                    </div><br><br>
                    <table class="text-center our-step">
                        <tr><td>
                            <div class="col-sm-4 wow fadeInDown" data-wow-duration="4000ms" data-wow-delay="500ms" onclick="location='../down/downZIP.jsp'">
                                <div class="download-icon" id="left"><p></p><i class="fa fa-desktop"></i>
                                    <div class="download-info">
                                        <h4>SRM.zip</h4>
                                    </div></div></div></td><td>
                            <div class="col-sm-4 wow fadeInDown" data-wow-duration="4000ms" data-wow-delay="550ms" onclick="window.open('https://chrome.google.com/webstore/detail/ie-tab/hehijbfgiekmjfkfjpbkbammjbdenadd?hl=ko', '_blank')">
                                <div class="download-icon" id="right"><p></p><i class="fa fa-desktop"></i>
                                    <div class="download-info">
                                        <h4>IE&nbsp;tab</h4></div></div></div></td></tr>
                        </table>
                        <br><br><br><br><br>
                        <div class="download-info">
<p><h4>4. 설치파일 중 SRM.exe와 remote.exe는 C드라이브 바로 아래에 넣어주세요.</h4><br>
                            <div class="exe"></div></p></div><br><br>
                            <div class="download-info">
<p><h4>5. SRMInstaller.exe을 실행시켜 서비스를 설치해주세요.</h4><br>
                            <div class="install"></div></p></div> </div> </div>
            <%
                } else {
                    if(vo.getMaker_name() == null){
            %>
            <div id="step1">

```

```

<div class="col-sm-4 wow fadeInDown" data-wow-duration="2000ms" data-wow-delay="350ms">
    <div class="download-info">
    <h3><b>STEP2 : 서비스 설치</b></h3>
    <br>
    <p><h4><br>1. 아래의 설치파일을 관리대상서버에 받아주세요.</h4><p>
    </div> <br>
    <table class="text-center our-step">
    <tr>
    <td>
    <div class="col-sm-4 wow fadeInDown" data-wow-duration="4000ms" data-wow-delay="500ms" onclick="location='../down/downZIP.jsp'">
    <div class="download-icon"><p></p><i class="fa fa-desktop"></i>
    <div class="download-info">
    <h4>SRM.zip</h4></div></div></td><td>
    <div class="col-sm-4 wow fadeInDown" data-wow-duration="4000ms" data-wow-delay="550ms" onclick="window.open('https://chrome.google.com/webstore/detail/ie-tab/hehijbfgiekmjfkfjpbkbammjbdenadd?hl=ko', '_blank')">
    <div class="download-icon"><p></p><i class="fa fa-desktop"></i>
    <div class="download-info">
    <h4>IE&nbsp;tab</h4>
    </div></div></td></tr></table> <br><br><br>
    <div class="download-info">
    <p><h4>2. 설치파일 중 SRM.exe와 remote.exe는 C드라이브 바로 아래에 넣어주세요.</h4><br><div class="exe"></div><br><br>
    <div class="download-info">
    <p><h4>3. SRMInstaller.exe을 실행시켜 서비스를 설치해주세요.</h4><br>
    <div class="install"></div></p></div></div></div>
<%
    } else{
%>
<h1><%=pcname%></h1>
<br>
<table class="table table-striped">
    <thead>
    <tr>
    <th>분류</th>
    <th>내용</th>
    </tr>
    </thead>
    <tbody>
    <tr>
    <td><b>제조사</b></td>
    <td><%=vo.getMaker_name()%></td>
    </tr>

```

```

<tr>
    <td><b>모델명</b></td>
    <td><%=vo.getModel()%></td>
</tr>
<tr>
    <td><b>운영체제</b></td>
    <td><%=vo.getOs_name()%></td>
</tr>
<tr>
    <td><b>BIOS</b></td>
    <td><%=vo.getBios()%></td>
</tr>
<tr>
    <td><b>운영체제 버전</b></td>
    <td><%=vo.getOs_ver()%></td>
</tr>
<tr>
    <td><b>Processor</b></td>
    <td><%=vo.getProcessor()%></td>
</tr>
<tr>
    <td><b>서버 ID</b></td>
    <td><%=vo.getId()%></td>
</tr>
<tr>
    <td><b>디스크 용량</b></td>
    <td><%=vo.getSize()%> GB</td>
</tr>
<tr>
    <td><b>메모리</b></td>
    <td><%=vo.getMem_tot()%> GB</td>
</tr>
<tr>
    <td><b>가상 메모리</b></td>
    <td><%=vo.getMem_tot_vert()%> GB</td>
</tr>
<tr>
    <td><b>설치일</b></td>
    <td><%=vo.getInstall_date()%></td>
</tr>
</tbody>
</table>
<% }} %>
</div>
</body>
</html>

```



-----  
[plist.jsp]

```
<%@page import="javax.swing.text.Document"%>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%response.setCharacterEncoding("UTF-8");%>
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<jsp:useBean id="pidao" class="pcinfo.pcinfoDAO" />
<jsp:useBean id="memdao" class="userinfo.userinfoDAO" />
<jsp:useBean id="vo" class="pcinfo.pcinfoVO" />
<html>
<head>
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <link rel="stylesheet" href=
"http://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/css/bootstrap.min.css">
    <script src=
"https://ajax.googleapis.com/ajax/libs/jquery/1.12.2/jquery.min.js"> </script>
    <script src=
"http://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min.js"> </script>
<meta http-equiv="Content-Type" content="text/html; charset=EUC-KR">
<title>Insert title here</title>
    <script type="text/javascript" src=" ../js/jquery.js"> </script>
    <script type="text/javascript" src=" ../js/bootstrap.min.js"> </script>
    <script type="text/javascript" src="http://maps.google.com/maps/api/js?sensor=true"> </script>
    <script type="text/javascript" src=" ../js/jquery.inview.min.js"> </script>
    <script type="text/javascript" src=" ../js/wow.min.js"> </script>
    <script type="text/javascript" src=" ../js/mousescroll.js"> </script>
    <script type="text/javascript" src=" ../js/smoothscroll.js"> </script>
    <script type="text/javascript" src=" ../js/jquery.countTo.js"> </script>
    <script type="text/javascript" src=" ../js/main.js"> </script>
    <link rel="stylesheet" href=
"https://fonts.googleapis.com/icon?family=Material+Icons">
    <link href=" ../css/bootstrap.min.css" rel="stylesheet">
    <link rel="stylesheet" type="text/css" href=" ../css/list.css">
<script src=" ../js/list.js"> </script>
<link href=" ../css/font-awesome.min.css" rel="stylesheet">
<link href=" ../css/chart.css" rel="stylesheet">
    <link href='http://fonts.googleapis.com/css?family=Open+Sans:300,400,600,700' rel='stylesheet'
type='text/css'>
    <link rel="shortcut icon" href=" ../images/favicon.ico">
    <script src="jquery.js"> </script>
    <script type="text/javascript" src="http://code.jquery.com/jquery-1.8.2.min.js"> </script>
<script type="text/javascript">
var flag=0;
```

```

    var cnt=0;
function list_update(ajaxdata){
    var data = ajaxdata;
    var i = 0;
    obj = JSON.parse(data);
    for(i=0, cnt=0; i<obj.list_data.length; i++){
        if(obj.list_data[i].color==3){
            flag=1;
            cnt++;
document.getElementById('warning').innerHTML = "<img src=\\\"../images/err_on.png\\\" />";
document.getElementById('color'+i).innerHTML = "<img width=30 height=30 src=\\\"../images/color3.png\\\" /> ";
            if(i==obj.list_data.length-1) { flag=0; }

        }
        else if(obj.list_data[i].color==2){
            if(flag==0){
document.getElementById('warning').innerHTML = "<img src=\\\"../images/err_off.png\\\" />";
            document.getElementById('color'+i).innerHTML = "<img width=30 height=30 src=\\\"../images/color2.png\\\" /> ";
            if(i==obj.list_data.length-1) { flag=0; }
}else{
            if(flag==0){
document.getElementById('warning').innerHTML = "<img src=\\\"../images/err_off.png\\\" />";
            document.getElementById('color'+i).innerHTML = "<img width=30 height=30 src=\\\"../images/color1.png\\\" /> ";
            if(i==obj.list_data.length-1) { flag=0; }
        }
    }

    document.getElementById('count').innerHTML = cnt;
}

function ajax(){
    $.ajax({
        url:'../detail/list_data.jsp',
        async : false ,
        success: function(res) {
            list_update(res);
        }
    });
}
setInterval(function() {ajax(); }, 1000);
</script>
</head>
<%

```



```

var password = document.getElementById("signin-password").value;
if (!username || !password) {
    alert("이메일/비밀번호를 입력해주세요.");
    return false;
}
try {
    var rsaPublicKeyModulus = document.getElementById("rsaPublicKeyModulus").value;
    var rsaPublicKeyExponent = document.getElementById("rsaPublicKeyExponent").value;
    submitEncryptedForm(username,password, rsaPublicKeyModulus,
rsaPublicKeyExponent);
    } catch(err) {
        alert(err);
    }
    return false;
}
function submitEncryptedForm(username, password, rsaPublicKeyModulus, rsaPpublicKeyExponent) {
    var rsa = new RSAKey();
    rsa.setPublic(rsaPublicKeyModulus, rsaPpublicKeyExponent);
    // 사용자ID와 비밀번호를 RSA로 암호화한다.
    var securedUsername = rsa.encrypt(username);
    var securedPassword = rsa.encrypt(password);
    // POST 로그인 폼에 값을 설정하고 발행(submit) 한다.
    var securedLoginForm = document.getElementById("securedindex");
    securedLoginForm.securedUsername.value = securedUsername;
    securedLoginForm.securedPassword.value = securedPassword;
    securedLoginForm.submit();
}

```

-----  
[checkPW.jsp]

```

<%@ page language="java" contentType="text/html; charset=utf-8"
    pageEncoding="utf-8" import="etc.Encrypt"%>
<jsp:useBean id="dao" class="userinfo.userinfoDAO" />
<!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>mypage1Check</title>
</head>
<body>
<%
    int rst = 0;
    Encrypt ec = new Encrypt();
    String email = (String)session.getAttribute("email");
    String pw = ec.sha512((String)request.getParameter("pw"));

```

```

        if(pw.equals("")){%>
        <script type="text/javascript">
            alert("오류:: 비밀번호를 입력해주세요.");
            history.go(-1);
        </script>
    <%
    }
    else{
        rst = dao.loginCheck(email, pw);
        if(rst == 2){
    %>
            <script type="text/javascript">
                location.href="../mypage/mypage1.jsp";
            </script>
    <%
        } else { %>
            <script type="text/javascript">
                alert("오류:: 비밀번호가 틀렸습니다.");
                history.go(-1);
            </script>
    <%
        }
    } %>

```

</body>

</html>

-----  
[lframe.jsp]

```

<%@ page language="java" contentType="text/html; charset=EUC-KR"
    pageEncoding="EUC-KR"%>

```

```

<%

```

```

    String ip = (String)session.getAttribute("ip");

```

```

%>

```

```

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

```

```

<html>

```

```

<head>

```

```

    <script language="Javascript">

```

```

        // Global variables

```

```

        var RightFrameDocument = top.frames[1].document;

```

```

        var RightFrame=top.frames[1];

```

```

        var ActiveNetworkConnection, ActivityLogArray;

```

```

        var CurrentRemotePcAddress;

```

```

        var LIVE_SEGMENTED_REMOTESCREEN_DISPLAY=1;

```

```

        var tmpImgObj=[], retryTimer, AbortingTransfer;

```

```

        var SplashDeskEnabled, ACTIVE_HEAD_REQUEST, ACTIVE_HEAD_REQUEST_MESS,baseURL;

```

```

        var objHTTP, objHTTPmess, remlmg1, remlmg2, remlmg3, remlmgCnt;

```

```
var DO_LOGGING=1, refreshCheckID, refreshCheckCnt, headTimerID, headMessTimerID,
REFRESH_CNT_LIMIT=2, ServerProblemsCnt=0, UploadedRefreshPending=0;
```

```
function Start() {
    if (RightFrameDocument.getElementById("SDFOOTER")==null){
        setTimeout("Start()",500);
        return;
    }
    f1.txtRemotePcAddress.focus();
    f1.txtRemotePcAddress.value = "<%= ip %>";
    var tmpImg=new Image();
    tmpImg.src="img/disabled.gif";
```

```
    AbortingTransfer=0; retryTimer=[]; SplashDeskEnabled=1; ACTIVE_HEAD_REQUEST=0;
ACTIVE_HEAD_REQUEST_MESS=0; refreshCheckID=undefined; refreshCheckCnt=0;
    CurrentRemotePcAddress=remlng1=remlng2=remlng3=""; remlngCnt=0;
    ActivityLogArray = new Array();
    ActiveNetworkConnection = 0;
    document.onkeydown=ActiveInputControlManager;
    f1.txtRemotePcAddress.onblur=ActiveInputControlManager;
    f1.txtRemotePcAddress.onfocus=ActiveInputControlManager;
    f1.butRemotePcAddress.onclick=ActiveInputControlManager;
    f1.butRemotePcAddress.click();}
```

```
function ActiveInputControlManager()
{
    if (event.type=='keydown') {
        with (document.activeElement){
            if (!(id=='txtRemotePcAddress' || id=='txtSendText' || id == 'txtSnapshotDelay') &&
RightFrame.RemoteScreenImageDisplayIsActive) {
                RightFrame.SetFocusToFrame();
                RightFrameDocument.onkeydown();
                event.returnValue=false; event.cancelBubble=true;
                return;
            }
        }
    }
}
```

```
if (event.keyCode==13) {with (event.srcElement){
    if (id=='txtRemotePcAddress') {
        with (f1.txtRemotePcAddress){
            if (value != "")value = value.replace(/^http:W/W//i,"");
        }
        f1.butRemotePcAddress.focus();
        f1.butRemotePcAddress.onclick();
    }
    else if (id=='txtSendText'){
```

```

        f2.butSendText.focus();
        f2.butSendText.onclick();
    }else if (id=='txtSnapshotDelay')
        butRefresh.focus();
    }
    }return;
}

switch (event.srcElement.id)
{
case 'txtRemotePcAddress': // This gets called if there is a focus or blur on the box;
    case 'txtSendText':
    case 'txtSnapshotDelay':
        if (event.type=='focus') {
            this.select();
        }
        else{
            if (this.id=="txtSnapshotDelay"){
                with (txtSnapshotDelay){
                    if (IsNumeric(value)){
                        if (value.substring(value.length-1)=='.')
                            value=value.substring(0,value.length-1);
                        if (value<10 && (value.length<2 || (value.length==2 &&
value.substring(0,1)=='.')))
                            value="0"+value;
                        if (value>99) value=99;}
                        else value="00";
                    }
                }
            }
            else if (this.id=="txtRemotePcAddress"){
                with (f1.txtRemotePcAddress) {
                    if (value != "") value = value.replace(/^http:W/W//i,"");
                }
            }
        } break;
    case 'butRemotePcAddress': // Remote PC
        if (f1.txtRemotePcAddress.value!="")
            RefreshDisplayNetworkConnect(1);
        break;
    }
}

function IsNumeric(strString){
    var strValidChars = "0123456789.";
    var strChar;
    var blnResult = true;

```

```

    if (strString.length == 0) return false;

    for (i = 0; i < strString.length && blnResult == true; i++) {
        strChar = strString.charAt(i);
        if (strValidChars.indexOf(strChar) == -1)
            blnResult = false;
    }
    return blnResult;
}

function AbortCurrentTransfers() {
    if (ACTIVE_HEAD_REQUEST) {
        objHTTP.abort(); ACTIVE_HEAD_REQUEST=0;
        ActivityLogging("%% Aborting HEAD Request - Full Screen Request %%");
    }
    if (ActiveNetworkConnection){
        ActivityLogging("-- Aborting Connections: "+ActiveNetworkConnection);
        AbortingTransfer=1;
        RightFrame.MakeRemoteImageDisplayDirty(1);

        if (retryTimer[remlmg1]!=undefined) clearTimeout(retryTimer[remlmg1]);
        if (retryTimer[remlmg2]!=undefined) clearTimeout(retryTimer[remlmg2]);
        if (retryTimer[remlmg3]!=undefined) clearTimeout(retryTimer[remlmg3]);
        var tmpImg=RightFrameDocument.images;

        if (remlmg1!="") { with (tmpImg[remlmg1]) {
            if (readyState!="complete")
                outerHTML="";
            }remlmg1="";
        }

        if (remlmg2!="") { with (tmpImg[remlmg2]) {
            if (readyState!="complete") outerHTML="";
            }
            remlmg2="";
        }

        if (remlmg3!="") { with (tmpImg[remlmg3]) {
            if (readyState!="complete") outerHTML="";
            }
            remlmg3="";
        }

        ActiveNetworkConnection=0;
        retryTimer=[];

```



```

        AbortingTransfer=0;
    }
}

function HeadMessTimedOut() {
    if (objHTTPmess.readyState==1){
        objHTTPmess.abort(); ACTIVE_HEAD_REQUEST_MESS=0;
        ActivityLogging("%% Aborting Message HEAD Request - Timed Out %%");
    }
}

function HeadTimedOut(){
    if (objHTTP.readyState==1){
        ActivityLogging("%% Aborting HEAD Request - Timed Out %%");
        objHTTP.abort(); ACTIVE_HEAD_REQUEST=0;
    }
}

function SendRemoteMessageHandler() {
    if (objHTTPmess.readyState==4){
        clearTimeout(headMessTimerID);
        ACTIVE_HEAD_REQUEST_MESS=0;
        if (objHTTPmess.status == 401)
            {Error401(); delete objHTTPmess; return;}
        else if (objHTTPmess.status != 200)
            {alert("There was a problem sending the message (2). Try again later:
"+objHTTPmess.status); delete objHTTPmess; return;}
        delete objHTTPmess;
    }
}

function RefreshDisplayNetworkConnect(id) {
    RefreshDisplayFlag=1;
    if (refreshCheckID != undefined) {
        clearTimeout(refreshCheckID);
        refreshCheckID = undefined;
        if (id!=6) refreshCheckCnt=0;
    }

    if (ActiveNetworkConnection || ACTIVE_HEAD_REQUEST){
        if (id==7 || (RightFrame.NeedFullRemoteImage && id!=8) ||
(CurrentRemotePcAddress.toLowerCase()!=f1.txtRemotePcAddress.value.toLowerCase()))
AbortCurrentTransfers();
        else {
            if (id!=4){
                if (id==8) ResetupJustWatch();
            }
        }
    }
}

```

```

        RefreshDisplayFlag=0;
        return;
    }
}
}
tmpImgObj=[];
if (CurrentRemotePcAddress.toLowerCase()!=
f1.txtRemotePcAddress.value.toLowerCase())
    {status="Connecting to the Remote PC ..."; RightFrame.ShowDisplay("noimage");
RightFrame.MouseKeyActiveNetworkBuffer=[];}
baseUrl = "http://" + f1.txtRemotePcAddress.value + ":8888?ts=" + (new Date().getTime());
var remoteURL = baseUrl + "&iq=" + 10 + "&sd=" + 0.1;

if (id==7 || RightFrame.NeedFullRemoteImage) {
remoteURL+="&ra=1"; RightFrame.ClearRemoteScreenImageDisplayArray();}
else remoteURL+="&ra=0";
switch (id)
{
    case 20: // Mouse click
remoteURL+="&mb=" + RightFrame.sendMouse.button + "&mba=" + RightFrame.sendMouse.type + "&mx1=" + RightFrame.sendMouse.xPos1 + "&my1=" + RightFrame.sendMouse.yPos1 + (((RightFrame.sendMouse.xPos2>0
&&
RightFrame.sendMouse.yPos2>0)?("&mx2=" + RightFrame.sendMouse.xPos2 + "&my2=" + RightFrame.sendMouse.yPos2):"")+((RightFrame.sendMouse.key)?("&st1=" + RightFrame.sendMouse.key + "&st2="):""));
        break;
    case 30: // Keyboard click
        remoteURL+="&keys=" + RightFrame.sendKeyBuffer;
        break;
    case 66: // Buffered Mouse and Keys update
&buff=<mouse=0>,<mb>,<mba>,<mx1>,<my1>,<mx2>,<my2>,<st1>*<mouse=0>,<mb>,<mba>,<mx1>,<my1>,<mx2>,<my2>,<st1>*<key=1>,<keys>*<key=1>,<keys>*<launch=2>,<l>*<sendtext=3>,<st1>,<st2>
        // &buff=0,1,click,51,362,0,0,32|0,1,click,54,531,0,0,32
        remoteURL+="&buff=" + RightFrame.MouseKeyActiveNetworkBuffer.join("");
        RightFrame.MouseKeyActiveNetworkBuffer=[];
        break;
    }
remoteURL = encodeURI(remoteURL);
if (id==4) { // System Summary
open(remoteURL,"sdwin","width=640, height=480, resizable=yes, scrollbars=yes");
    status="";
}
else { // Standard request for images
    try{
        ActivityLogging("$$ Making HEAD Request: " + remoteURL);
        ACTIVE_HEAD_REQUEST=1;
    }
}

```

```

objHTTP = new XMLHttpRequest();

objHTTP.onreadystatechange=HandleRemotePcRequest;
objHTTP.open("HEAD", remoteURL, true);
objHTTP.send();

if (CurrentRemotePcAddress==f1.txtRemotePcAddress.value)
    headTimerID=setTimeout("HeadTimedOut()",30000);
}catch (e)
{
    ACTIVE_HEAD_REQUEST=0;
    alert("Remote PC Address: [ "+f1.txtRemotePcAddress.value+" ]\n\nThe
connection to the remote address could not be established.\nPlease check your input and try
again.\n\nConfirm Internet Options [Security] settings for the Internet:\n1. Set W"Security Level
For This ZoneW" to Medium. Click APPLY\n2. ENABLE: W"Access Data Sources Across
DomainsW"Wn");

    ActivityLogging("?HEAD Connect Problem? = "+e.message);
    RefreshDisplayFlag=0; status=""; return;
}
}
RefreshDisplayFlag=0;
}

function ResetupJustWatch() {
    var tmp=1;
    if (IsNumeric(txtSnapshotDelay.value))
        tmp=(txtSnapshotDelay.value>0)?txtSnapshotDelay.value:1;
    else
        tmp=1;
    JustWatchTimer = setTimeout("RefreshDisplayNetworkConnect(8)",tmp*1000);
}

function Error401() {
    alert("Remote PC Address: [ "+f1.txtRemotePcAddress.value+" ]\n\nThe connection was
successfully established but the remote user\nhas not accepted your request to
connect.\n\nConnection Closed.");
    ActivityLogging("!Connection Rejected by Remote PC: "+f1.txtRemotePcAddress.value);
}

function CheckBuffer(val){
    status="";
if (RightFrame.MouseKeyActiveNetworkBuffer.length)
    RefreshDisplayNetworkConnect(66);
}

```

```

function HandleRemotePcRequest(){
    if (objHTTP.readyState==4) { // Completed loading
        clearTimeout(headTimerID);
        var responseAllHeaders=objHTTP.getAllResponseHeaders();
        var responseCoords = objHTTP.getResponseHeader("coords");
        var responseText=objHTTP.responseText;
        var netStatus=objHTTP.status;
        delete objHTTP;

        ACTIVE_HEAD_REQUEST=0;

        if(netStatus==401) Error401();
        else if(netStatus>500) // Server probs
            {if (++ServerProblemsCnt>3)RightFrame.ShowDisplay("noimage");}

        if (netStatus!=200 || responseCoords==""){CheckBuffer(); status=""; return;}
        var imgData = responseCoords.split("|"), tmp, tmp2;
        if (imgData == null || imgData.length==0) {CheckBuffer(); return false;}
        if (imgData.length==1 && imgData[0]=="*"){Error401(); CheckBuffer(); return;}
        CurrentRemotePcAddress=f1.txtRemotePcAddress.value;
        ServerProblemsCnt=0;
        if (imgData[0]=="" && imgData[1]=="" && imgData[2]=="")
            {CheckBuffer(1); return;}
        var rfTmpImg=RightFrameDocument.images;
        remImg1=remImg2=remImg3="";
        for (var i=0; i<imgData.length; i++) {
            if (imgData[i] != "") {
                remImgCnt++;
                tmp=imgData[i].split(",");
                if (tmp[0]=="*")
                    {tmp[0]=0; tmp[1]=0; RightFrame.ClearRemoteScreenImageDisplayArray();}
                tmp2="<img                                width="+tmp[2]+"                height="+tmp[3]+"
class="" + ((LIVE_SEGMENTED_REMOTESCREEN_DISPLAY                                &&
!RightFrame.NeedFullRemoteImage)? "Y":"X") + ""                id='r'+(remImgCnt)+"                style='left:"+tmp[0]+"px;
top:"+tmp[1]+"px;'" + ((RightFrame.NeedFullRemoteImage)? " FS=1":"") + ">";

            if (RightFrame.NeedFullRemoteImage)
                RightFrame.RemoteScreenImageDisplay.insertAdjacentHTML("beforeEnd",tmp2);
            else RightFrame.RSID.insertAdjacentHTML("beforeEnd",tmp2);
            ActiveNetworkConnection++;
            if (i==0) remImg1="r"+(remImgCnt);
            else if (i==1) remImg2="r"+(remImgCnt);
            else remImg3="r"+(remImgCnt);
            with (rfTmpImg['r'+remImgCnt]) {
                onerror=onabort=onreadystatechange=MonitorActiveNetworkConnections;

```

```

src=baseURL+"&img="+i+1);
    }
    }
    }
}

function MonitorActiveNetworkConnections() {
    var ItemName, event=RightFrame.event, isFullScreen=0;
    if (ActiveNetworkConnection > 0 && !AbortingTransfer)
        status="Working ...";

    if (this.src=="img/blank.gif")
        return;

    if (this.id == remImg1)
        ItemName="Desktop";
    else if (this.id == remImg2)
        ItemName="Taskbar";
    else if (this.id == remImg3)
        ItemName="Tasktray";
    else
        ItemName="Unknown "+this.id+"";

    if (AbortingTransfer)
    {if (ActiveNetworkConnection>0) ActiveNetworkConnection--;}
    else {
        switch (event.type){
            case 'error':
                if (event.srcElement.err!=undefined)
                    event.srcElement.err++;
                else
                    event.srcElement.err=1;
                if (event.srcElement.err < 3)

retryTimer[this.id]=setTimeout("RetryRemotelImageDownload(""+this.id+""),1500);
                else {
                    this.outerHTML="";
                    if (ActiveNetworkConnection>0) ActiveNetworkConnection--;
                }
                break;
            case 'abort':
                this.outerHTML="";
                if (ActiveNetworkConnection>0) ActiveNetworkConnection--;
                break;
            case 'readystatechange':
                if (this.readyState=="complete") // Image loaded fine

```

```

                {if                (ActiveNetworkConnection>0)                ActiveNetworkConnection--;
isFullScreen=RightFrame.NeedFullRemoteImage; OnImageCompletedNetworkConnect(this);}
                break;
            default:
                alert("Other event: "+event.type);
                break;
        }
    }
    if (!ActiveNetworkConnection && !ACTIVE_HEAD_REQUEST) {
        status="";

        if (RightFrame.MouseKeyActiveNetworkBuffer.length){
            refreshCheckCnt=0; refreshCheckID=undefined;
            RefreshDisplayNetworkConnect(66);
        }
        else{
            if (refreshCheckCnt < REFRESH_CNT_LIMIT && !isFullScreen)
                {refreshCheckID=setTimeout("if                (f1.txtRemotePcAddress.value!=")
RefreshDisplayNetworkConnect(6);",((refreshCheckCnt)?5000:3000)); refreshCheckCnt++;}
            else
                {refreshCheckCnt=0; refreshCheckID=undefined;}
        }
    }
}

function RetryRemoteImageDownload(imgObjId){
    var tmp;
    try {
        with (RightFrame.document.images[imgObjId]) {
            retryTimer[imgObjId]=undefined;
            tmp=src; src="img/blank.gif"; src=tmp;
        }
    }
    catch (e) {
        ActiveNetworkConnection--;
        if (ActiveNetworkConnection==0)
            status="";
    }
}

function ClearActivityLog() {
    ActivityLogArray=[];
    RightFrame.FloatingWindowReset();
}

function ActivityLogging(strLog){

```

```

        if (DO_LOGGING) {
            if (ActivityLogArray.length==35)
                ActivityLogArray.shift();

            ActivityLogArray.push(formatDate("hh:mm:ss")+ " | "+ strLog);
            if (RightFrame.LogWindow.style.display=="inline")
                RightFrame.LogWindowTxtArea.value+="\n"+formatDate("hh:mm:ss")+ " | "+ strLog;}
        }
        function OnImageCompletedNetworkConnect(imgObj){
            if (LIVE_SEGMENTED_REMOTESCREEN_DISPLAY && !(RightFrame.NeedFullRemoteImage &&
imgObj.FS)){
                return;
            }

            tmpImgObj.push(imgObj);

            if (!ActiveNetworkConnection) {
                var tmp;

                while (tmpImgObj.length){
                    tmp = tmpImgObj.pop();

                    ActivityLogging("@@ Image Complete: "+tmp.src+" (ID: "+tmp.id+" Size:
"+tmp.fileSize+" # Xpos:"+tmp.style.left+" # Ypos:"+tmp.style.top);
                    RightFrame.NewRemoteScreenImageDisplay(tmp);
                }
            }
        }
        function addZero(vNumber){
            return ((vNumber < 10) ? "0" : "") + vNumber
        }
        function formatDate(vFormat){
            vDate = new Date();

            var vDay          = addZero(vDate.getDate());
            var vMonth        = addZero(vDate.getMonth()+1);
            var vYearLong     = addZero(vDate.getFullYear());
            var vYearShort    = addZero(vDate.getFullYear().toString().substring(3,4));
            var vYear         = (vFormat.indexOf("yyyy")>-1?vYearLong:vYearShort)
            var vHour         = addZero(vDate.getHours());
            var vMinute       = addZero(vDate.getMinutes());
            var vSecond       = addZero(vDate.getSeconds());
            var vDateString   = vFormat.replace(/dd/g, vDay).replace(/MM/g,
vMonth).replace(/y{1,4}/g, vYear)
            vDateString       = vDateString.replace(/hh/g, vHour).replace(/mm/g,
vMinute).replace(/ss/g, vSecond)

```

```

        delete vDate;
        return vDateString
    }

    function CompletedDownloadingRefreshDisplay() {
        if (ActiveNetworkConnection)
            {if (!UploadedRefreshPending){UploadedRefreshPending=1;
setTimeout("CompletedDownloadingRefreshDisplay()",2000);}}
        else{setTimeout("butRefresh.click()",2000);    UploadedRefreshPending=0;}
    }
</script>
</head>
<body onload="Start()">
    <form id="f1" onsubmit="event.returnValue=false">
        <input type="text" name="txtRemotePcAddress" value="<%= ip %>" id="txtRemotePcAddress"
size=18>
        <input type="submit" value="Connect" id="butRemotePcAddress"> <br>
    </form>
    <span onclick="radJustWatch.click()" onmouseover="this.style.cursor = 'pointer'"> <input
type="radio" id="radJustWatch"> </span>
</body>
<SPAN id="SDFOOTER"> </SPAN>
</html>

```

---

## <클라이언트 프로그램 소스코드>

[SRM.cpp]

```

#include <stdio.h>
#include <iostream>
#include <winsock.h>
#include <Windows.h>
#include <fstream>
#include <Tlhelp32.h>
#include <WtsApi32.h>
#include <UserEnv.h>
#include "ServiceUtil.h"
#include "logProcess.h"
#include "systemInfo.h"
#include "parse.h"
#include "ajaxCall.h"
#include "json.h"
#include "pingCheck.h"
#include "temperature.h"
#include "network.h"

```



```

#include "address.h"

#pragma warning(disable:4996)
#pragma warning(disable:4005)
#pragma comment(lib,"WtsApi32.lib")
#pragma comment(lib,"UserEnv.lib")
#define SERVICE_CONTROL_CUSTOM_MESSAGE 0x0085
using namespace std;
#define SERVICE_NAME TEXT("SRM Monitoring")

SERVICE_STATUS_HANDLE g_hServiceStatus = NULL; //서비스환경글로벌핸들
DWORD g_dwServiceState = 0; //서비스현재상태
HANDLE g_hEventExit = NULL; //서비스종료이벤트핸들
void TestServiceMain(DWORD argc, LPTSTR* argv); //서비스메인함수
void LogPrint(LPTSTR szLog, WORD wEventType);
void U214Handler(DWORD dwOpcode);
void SetU214Status(DWORD dwState, DWORD dwError, DWORD dwExError,
WORD dwAccept = SERVICE_ACCEPT_STOP | SERVICE_ACCEPT_PAUSE_CONTINUE);
BOOL LaunchAppIntoDifferentSession();

void main(){
    SERVICE_TABLE_ENTRY DispatchTable[] =
    {
        {"SRM Monitoring", (LPSERVICE_MAIN_FUNCTION)TestServiceMain},
        {NULL, NULL}
    };

    if(!::StartServiceCtrlDispatcher(DispatchTable)) return;
}

void TestServiceMain(DWORD argc, LPTSTR* argv){
    DWORD dwRes = 0;
    g_hServiceStatus = ::RegisterServiceCtrlHandler(SERVICE_NAME,
(LPHANDLER_FUNCTION)U214Handler); //서비스핸들러함수등록
    if(g_hServiceStatus == NULL){
        LogPrint("서비스컨트롤핸들을설치할수없습니다,EVENTLOG_ERROR_TYPE);
        return;
    }
    SetU214Status(SERVICE_START_PENDING, NO_ERROR, 0);
    g_hEventExit = ::CreateEvent(NULL, TRUE, FALSE, "서비스종료이벤트);
    SetU214Status(SERVICE_RUNNING, NO_ERROR, 0);

    while(TRUE){
        if(::WaitForSingleObject(g_hEventExit, 10) == WAIT_OBJECT_0){
            break //서비스종료
        }
    }
}

```

```

        if(g_hEventExit != NULL)    ::CloseHandle(g_hEventExit);
        LogPrint("종료되었습니다,EVENTLOG_INFORMATION_TYPE);
        SetU214Status(SERVICE_STOPPED, NO_ERROR, 0);
    }
void SetU214Status(DWORD dwState, DWORD dwError, DWORD dwExError, DWORD dwAccept){
    SERVICE_STATUS ss;
    ss.dwServiceType = SERVICE_WIN32; //단일실행
    ss.dwCurrentState = dwState;
    ss.dwControlsAccepted = dwAccept;
    ss.dwWin32ExitCode = dwError;
    ss.dwServiceSpecificExitCode = 0;
    ss.dwCheckPoint = 0;
    ss.dwWaitHint = 0;

    if(dwError == ERROR_SERVICE_SPECIFIC_ERROR){
        ss.dwServiceSpecificExitCode = dwExError;
    }
    g_dwServiceState = dwState; //현재상태보관프로세스의현재상태
    ::SetServiceStatus(g_hServiceStatus, &ss);
    makeLogDir();
    char* out; //wmi 정보담는문자열
    char* URL; //컨텍스트
    char* server_ip; //서버아이피
    string client_ip; //클라아이피
    char* mac;
    int port; //포트번호
    char* url; //서블릿이름
    static int count = 0;

    while (dwState == SERVICE_RUNNING){
        URL = "/SRMserver/"
        server_ip = "10.100.114.245"
        client_ip = GetIPAddress();
        port = 8585;
        url = "srm"
        writeToLog(client_ip.c_str());
        cJSON* rootObject = cJSON_CreateObject();

        //실시간으로보낼애들
        writeToLog("실시간);
        dynamicInfo();
        processInfo();
        networkInfo();
        pingCheck(server_ip);
        mac = getMAC(client_ip);
        macwrite(mac, client_ip);
    }
}

```

```

ofstream fout;

fout.open("C:\\dynamicInfo.log", fstream::out | fstream::app);
fout<<"count="<<count<<endl;
fout.close();

getTemperature();
temper_StrToInt();

parseDynamic(rootObject);
parseProcess(rootObject);
parseNetwork(rootObject);

if(count==0){ //한번만보낼고정값들
    staticInfo();
    parseStatic(rootObject);
    writeToLog(" 고정");
    LaunchAppIntoDifferentSession();
}

out = cJSON_Print(rootObject);
writeToLog(out);
ajaxCall(URL, server_ip, port, out, url);
count = 1;

cJSON_Delete(rootObject);
}
}

void U214Handler(DWORD dwOpcode){ //서비스이벤트처리함수
    if(dwOpcode == g_dwServiceState) return

    switch(dwOpcode){
    case SERVICE_CONTROL_PAUSE: //일시정지
        SetU214Status(SERVICE_PAUSE_PENDING, NO_ERROR, 0, 0);
        SetU214Status(SERVICE_PAUSED, NO_ERROR, 0);
        LogPrint("정상적으로실행됩니다,EVENTLOG_INFORMATION_TYPE);
        break;
    case SERVICE_CONTROL_CONTINUE: //재시작
        SetU214Status(SERVICE_CONTINUE_PENDING, NO_ERROR, 0, 0);
        SetU214Status(SERVICE_RUNNING, NO_ERROR, 0);
        LogPrint("일시정지후재가동되었습니다, EVENTLOG_INFORMATION_TYPE);
        break;
    case SERVICE_CONTROL_STOP: //종료
        SetU214Status(SERVICE_STOPPED, NO_ERROR, 0, 0);
        ::SetEvent(g_hEventExit);
        break;
    }
}

```

```

        case SERVICE_CONTROL_INTERROGATE:
            SetU214Status(SERVICE_STOPPED, NO_ERROR, 0);
            break;
        default:
            SetU214Status(g_dwServiceState, NO_ERROR, 0);
            break;
    }
}

void LogPrint(LPTSTR szLog, WORD wEventType){ //이벤트로그출력함수
    TCHAR* lpszStrings[2];
    TCHAR szMsg[256];
    HANDLE hEventSource;
    DWORD dwError = ::GetLastError(); //에러가발생할경우리턴
    hEventSource = ::RegisterEventSource(NULL, SERVICE_NAME);
    if(wEventType == EVENTLOG_ERROR_TYPE)
        wsprintf(szMsg, TEXT("%s [ERROR CODE : %d]", SERVICE_NAME, dwError);
    else
        wsprintf(szMsg, TEXT("%s", SERVICE_NAME);
    lpszStrings[0] = szMsg;
    lpszStrings[1] = szLog;
    if(hEventSource != NULL){
        ::ReportEvent(hEventSource, wEventType, 0, 0, NULL, 2, 0, (const
char**)(LPTSTR*)lpszStrings, NULL); //이벤트로그가시스템에등록
        ::DeregisterEventSource(hEventSource);
    }
}

BOOL LaunchApplIntoDifferentSession() {
    PROCESS_INFORMATION pi;
    STARTUPINFO si;
    BOOL bResult = FALSE;
    DWORD dwSessionId, winlogonPid;
    HANDLE hUserToken, hUserTokenDup, hPToken, hProcess;
    DWORD dwCreationFlags;
    dwSessionId = WTSGetActiveConsoleSessionId();
    PROCESSENTRY32 procEntry;
    HANDLE hSnap = CreateToolhelp32Snapshot(TH32CS_SNAPPROCESS, 0);
    if (hSnap == INVALID_HANDLE_VALUE){
        return 1 ;
    }
    procEntry.dwSize = sizeof(PROCESSENTRY32);
    if (!Process32First(hSnap, &procEntry)){
        return 1 ;
    }
    do{

```

```

        if (_stricmp(procEntry.szExeFile, "winlogon.exe") == 0){
            DWORD winlogonSessId = 0;
            if (ProcessIdToSessionId(procEntry.th32ProcessID, &winlogonSessId) && winlogonSessId ==
dwSessionId){
                winlogonPid = procEntry.th32ProcessID;
                break
            }
        }
    } while (Process32Next(hSnap, &procEntry));

    WTSQueryUserToken(dwSessionId,&hUserToken);
    dwCreationFlags = NORMAL_PRIORITY_CLASS|CREATE_NEW_CONSOLE;
    ZeroMemory(&si, sizeof(STARTUPINFO));
    si.cb= sizeof(STARTUPINFO);
    si.lpDesktop = "winsta0\\default"
    ZeroMemory(&pi, sizeof(pi));
    TOKEN_PRIVILEGES tp;
    LUID luid;

    hProcess = OpenProcess(MAXIMUM_ALLOWED,FALSE,winlogonPid);

    if(!::OpenProcessToken(hProcess,TOKEN_ADJUST_PRIVILEGES|TOKEN_QUERY
|TOKEN_DUPLICATE|TOKEN_ASSIGN_PRIMARY|TOKEN_ADJUST_SESSIONID
|TOKEN_READ|TOKEN_WRITE,&hPToken)){
        int abcd = GetLastError();
        printf("Process token open Error: %u\\n",GetLastError());
    }

    if (!LookupPrivilegeValue(NULL,SE_DEBUG_NAME,&luid)){
        printf("Lookup Privilege value Error: %u\\n",GetLastError());
    }
    tp.PrivilegeCount =1;
    tp.Privileges[0].Luid =luid;
    tp.Privileges[0].Attributes =SE_PRIVILEGE_ENABLED;

    DuplicateTokenEx(hPToken,MAXIMUM_ALLOWED,NULL,SecurityIdentification,TokenPrimary,&hUserTokenDup);
    int dup = GetLastError();
    //Adjust Token privilege
    SetTokenInformation(hUserTokenDup,TokenSessionId,(void*)dwSessionId,sizeof(DWORD));

    if
    (!AdjustTokenPrivileges(hUserTokenDup,FALSE,&tp,sizeof(TOKEN_PRIVILEGES),(PTOKEN_PRIVILEGES)NUL
L,NULL))

```

```

{
    int abc =GetLastError();
    printf("Adjust Privilege value Error: %u\n",GetLastError());
}

if (GetLastError()== ERROR_NOT_ALL_ASSIGNED)
{
    printf("Token does not have the privilege\n");
}

LPVOID pEnv =NULL;

if(CreateEnvironmentBlock(&pEnv,hUserTokenDup,TRUE))
{
    dwCreationFlags|=CREATE_UNICODE_ENVIRONMENT;
}
else
    pEnv=NULL;
bResult = CreateProcessAsUser(
hUserTokenDup,          // client's access token
    TEXT("C:\\Windows\\remote.exe"),          // file to execute
    NULL,          // command line
    NULL,          // pointer to process SECURITY_ATTRIBUTES
    NULL,          // pointer to thread SECURITY_ATTRIBUTES
    FALSE,          // handles are not inheritable
    dwCreationFlags, // creation flags
    pEnv,          // pointer to new environment block
    NULL,          // name of current directory
    &si,          // pointer to STARTUPINFO structure
    &pi          // receives information about new process
);
int iResultOfCreateProcessAsUser = GetLastError();
CloseHandle(hProcess);
CloseHandle(hUserToken);
CloseHandle(hUserTokenDup);
CloseHandle(hPToken);
return 0;
}

```

---

[systemInfo.cpp]

```

#include "stdafx.h"
#include <iostream>
#include <fstream>
#include <cstdlib> // system()

```

```

#include "logProcess.h"
#pragma warning(disable:4996)
#pragma warning(disable:4005)
using namespace std;

int staticInfo() //고정값
{
    int state = 0;
    char errMsg[256];
    try {
        FILE* log = fopen("C:\\\\wmic.cmd", "w");
        if (log == NULL ) {
            throw "cannot make C:\\\\wmic.cmd error !!"
        }
        fprintf(log, "%s\\n", "@echo off");
        fprintf(log, "%s\\n", "wmic logicaldisk where W\"DeviceID='C:'\" get size /format:list > c:\\\\W\\tmp.log");
        fprintf(log, "%s\\n", "wmic computersystem get totalphysicalmemory, Manufacturer, Model /format:list >> c:\\\\W\\tmp.log");
        fprintf(log, "%s\\n", "wmic BIOS get SMBIOSBIOSVersion /format:list >> c:\\\\W\\tmp.log");
        fprintf(log, "%s\\n", "wmic OS get totalvirtualmemorySize, InstallDate, Caption, Version, SerialNumber, LastBootUpTime /format:list >> c:\\\\W\\tmp.log");
        fprintf(log, "%s\\n", "wmic CPU get Description, DeviceID, MaxClockSpeed, Name, Status, SystemName /format:list >> c:\\\\W\\tmp.log");
        fprintf(log, "%s\\n", "type c:\\\\W\\tmp.log > C:\\\\W\\staticInfo.log");
        fprintf(log, "%s\\n", "del c:\\\\W\\tmp.log");
        fclose(log);
        system ("C:\\\\wmic.cmd");
        remove("C:\\\\wmic.cmd");
    }
    catch (exception ex) {
        writeToLog((const char*) errMsg);
    }
    return 0;
}

```

-----  
[parse.cpp]

```

#include "stdafx.h"
#include "json.h"
#include <iostream>
#include <fstream>
#include "parse.h"
#include "logProcess.h"

#pragma warning(disable:4996)
#pragma warning(disable:4005)

```

```

using namespace std;
int parseStatic(cJSON *rootObject) //한번만
{
    char* name = NULL;
    char* value = NULL;
    int state = 0;
    char msg[256];

    try {
        char line[1024];
        cJSON *infoBasket, *itemObject;
        const int KEY_SIZE = 13;
        char *strs[][2] = {
            {"Caption=", "os_name"},
            {"Version=", "os_ver"},
            {"SerialNumber=", "id"},
            {"InstallDate=", "install_date"},
            {"LastBootUpTime=", "boot_time"},
            {"Manufacturer=", "maker_name"},
            {"Model=", "model"},
            {"Description=", "processor"},
            {"SMBIOSBIOSVersion=", "bios"},
            {"TotalPhysicalMemory=", "mem_tot"},
            {"TotalVirtualMemorySize=", "mem_tot_vert"},
            {"Size=", "Size"},
            {"X", "X"}
        };
        char *filename = "c:\\\\staticInfo.log"
        FILE *fp=fopen(filename,"r");
        if( !fp ) { throw "File Not Found!" }
        cJSON_AddItemToObject(rootObject, "infoBasket", infoBasket = cJSON_CreateArray());
        name = (char*)malloc(50); memset(name,0x00, 50);
        value= (char*)malloc(100); memset(value,0x00, 100);
        int lineNum = 0;
        while (fgets(line, 1024, fp) != NULL ){
            lineNum++;
            bool found = false;
            for (int ndx = 0; ndx < KEY_SIZE; ndx++) {
                if (strlen(line) == 0 ) continue;
                if (strchr(line, '=') < 0) continue;
                char* str0 = strs[ndx][0];
                char* str1 = strs[ndx][1];
                if(strncmp(line, str0, strlen(str0)) == 0){
                    char* p = strchr(line, '=') + 1;
                    int len = strlen(p);
                    if(*(p + len - 1) == '\\n') len--;
                }
            }
        }
    }
}

```



```

        if(*(p + len - 1) == 'Wr') len--;
        memset(name, 0x00, 50);
        strcpy(name, str1);
        memset(value, 0x00, 100);
        strncpy(value, p, len);
        found = true;
        break;
    }
}
if(!found) continue;
cJSON_AddItemToArray(infoBasket, itemObject = cJSON_CreateObject());
cJSON_AddStringToObject(itemObject, name, value); }
fclose(fp);
} catch(exception ex) {
    writeToLog((const char*) msg);
}
free(name);
free(value);
return 0;
}

```

-----

[ajaxCall.cpp]

```

#include "stdafx.h"
#include <stdlib.h>
#include <winsock.h> //dont forget to add wsock32.lib to linker dependencies
#include <iostream>
#include "logProcess.h"
#pragma warning(disable:4996)
#pragma warning(disable:4005)
using namespace std;
#define BUFFERSIZE 4096

```

```

char* ajaxCall(char* URL, char* ipaddress, int port, char* str, char* url){
    int state = 0;
    char msg[256];
    char* requestStr = NULL;
    char* resultstr = NULL;
    int sock;

    try{
        string response;
        string str_;
        int resp_leng;
        char* tmp = (char*)malloc(10);
        itoa(strlen(str), tmp, 10);
    }
}

```

```

char* strPort = (char*)malloc(10);
itoa(port, strPort, 10);
char buffer[BUFFERSIZE];
struct sockaddr_in serveraddr;
WSADATA wsaData;
int len = strlen(str) + 1000;
requestStr = (char*)malloc(len);
memset(requestStr, 0x00, len);
strcpy(requestStr, "POST ");
strcat(requestStr, URL);
strcat(requestStr, url);
strcat(requestStr, " ");
strcat(requestStr, "HTTP/1.1\r\n");
strcat(requestStr, "Host: ");
strcat(requestStr, ipaddress);
strcat(requestStr, ":");
strcat(requestStr, strPort);
strcat(requestStr, "\r\n");
strcat(requestStr, "User-Agent:Mozilla/4.0 (compatible; MSIE 7.0; Windows NT 6.2; WOW64; Trident/6.0; .NET4.0E; .NET4.0C; .NET CLR 3.5.30729; .NET CLR 2.0.50727; .NET CLR 3.0.30729; CMNTDFJS; .NET CLR 1.1.4322; InfoPath.2)");
strcat(requestStr, "\r\n");
strcat(requestStr, "Content-Type: application/json;charset=euc-kr");
strcat(requestStr, "\r\n");
strcat(requestStr, "content-length: ");
strcat(requestStr, tmp);
strcat(requestStr, "\r\n");
strcat(requestStr, "Accept:
text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8");
strcat(requestStr, "\r\n");
strcat(requestStr, "Accept-Language: ko-KR,ko;q=0.8,en-US;q=0.6,en;q=0.4");
strcat(requestStr, "\r\n");
strcat(requestStr, "Accept-Encoding: gzip, deflate");
strcat(requestStr, "\r\n");
strcat(requestStr, "Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7");
strcat(requestStr, "\r\n");
strcat(requestStr, "Keep-Alive: 115");
strcat(requestStr, "\r\n");
strcat(requestStr, "Connection: keep-alive\r\n");
strcat(requestStr, "\r\n");
//      본문이다
strcat(requestStr, str);
free(tmp);
free(strPort);
//winsock 초기화
if(WSAStartup(MAKEWORD(2, 2), &wsaData) != 0){

```

```

        throw "WSAStartup() failed"
    }
    //원소켓열기
    if((sock = socket(PF_INET, SOCK_STREAM, IPPROTO_TCP)) < 0){
        throw "socket() failed"
    }
    //연결
    memset(&serveraddr, 0, sizeof(serveraddr));
    serveraddr.sin_family = AF_INET;
    serveraddr.sin_addr.s_addr = inet_addr(ipaddress);
    serveraddr.sin_port = htons((unsigned short)port);

    if(connect(sock, (struct sockaddr *)&serveraddr, sizeof(serveraddr)) < 0){
        closesocket(sock);
        throw "connect() failed"
    }
    //요청보내기
    if(send(sock, requestStr, strlen(requestStr), 0) != strlen(requestStr)){
        closesocket(sock);
        throw "send() sent a different number of bytes than expected"
    }
    shutdown(sock, 1);
    //응답받기
    response = ""
    resp_leng = 0;
    while((resp_leng = recv(sock, (char*)&buffer, BUFFERSIZE, 0)) > 0){
        if(resp_leng == SOCKET_ERROR){
            closesocket(sock);
            throw "recv() error"
        }
        if(resp_leng > 0){
            response += string(buffer).substr(0, resp_leng);
        }
    }
    int LEN = response.length();
    resultstr = (char*)malloc(LEN+1);
    memset(resultstr, 0x00, LEN+1);
    strcpy(resultstr, response.c_str());
    closesocket(sock);
    WSACleanup();
    response.erase();
}
catch (exception ex) {
    if (state >=3 && state < 6) {
try { closesocket(sock); } catch (exception exc) {writeToLog(exc.what());}
    }
}

```

```

        sprintf(msg, "AjaxCall step %d", state);
        writeToLog((const char*) msg);
        writeToLog(ex.what());
    }
    free(requestStr);
    return resultstr;
}

```

-----

[address.cpp]

```

#include "stdafx.h"
#include <winsock2.h>
#include <string>
#include <stdio.h>
#include <Windows.h>
#include <lphlpapi.h>
#include <Assert.h>
#include <fstream>

#pragma comment(lib, "iphlpapi.lib")
#pragma comment(lib, "ws2_32.lib")
#define String std::string;
using namespace std;
#ifdef String
#undef String
#endif

string GetIPAddress(){
    WSADATA wsaData;
    WSStartup(MAKEWORD(2, 2), &wsaData);

    PHOSTENT hostinfo;
    char hostname[50];
    char ipaddr[50];
    memset(hostname, 0, sizeof(hostname));
    memset(ipaddr, 0, sizeof(ipaddr));
    int nError = gethostname(hostname, sizeof(hostname));
    if (nError == 0){
        hostinfo = gethostbyname(hostname); // ip address 파악
        strcpy(ipaddr, inet_ntoa(*(struct in_addr*)hostinfo->h_addr_list[0]));
    }
    WSACleanup();
    return ipaddr;
}

char* getMAC(string ip){

```

```

PIP_ADAPTER_INFO AdapterInfo;
DWORD dwBufLen = sizeof(AdapterInfo);
char *mac_addr = (char*)malloc(17);
AdapterInfo = (IP_ADAPTER_INFO *) malloc(sizeof(IP_ADAPTER_INFO));
if (AdapterInfo == NULL) {
    printf("Error allocating memory needed to call GetAdaptersinfo\n");
    return NULL;
}
if (GetAdaptersInfo(AdapterInfo, &dwBufLen) == ERROR_BUFFER_OVERFLOW) {
    free(AdapterInfo);
    AdapterInfo = (IP_ADAPTER_INFO *) malloc(dwBufLen);
    if (AdapterInfo == NULL) {
        printf("Error allocating memory needed to call GetAdaptersinfo\n");
        return NULL;
    }
}
if (GetAdaptersInfo(AdapterInfo, &dwBufLen) == NO_ERROR) {
    PIP_ADAPTER_INFO pAdapterInfo = AdapterInfo; // Contains pointer to current
adapter info
    do {
        if(strcmp(ip.c_str(), pAdapterInfo->IpAddressList.IpAddress.String) == 0){
            sprintf(mac_addr, "%02X:%02X:%02X:%02X:%02X:%02X",
pAdapterInfo->Address[0], pAdapterInfo->Address[1],
pAdapterInfo->Address[2], pAdapterInfo->Address[3],
pAdapterInfo->Address[4], pAdapterInfo->Address[5]);
            free(AdapterInfo);
            return mac_addr;
        }
        printf("\n");
        pAdapterInfo = pAdapterInfo->Next;
    }while(pAdapterInfo);
}
free(AdapterInfo);
return NULL;
}
void macwrite(char* mac, string ip){
    ofstream fout;
    fout.open("C:\\dynamicInfo.log", fstream::out | fstream::app);
    fout<<"macAddr="<<mac<<endl;
    fout<<"ipAddr="<<ip.c_str()<<endl;
    fout.close();
}

```

-----  
[temperature.cpp]

```
#define _WIN32_DCOM
```

```

#include <iostream>
#include <fstream>
#include <string>
#include <comdef.h>
#include <Wbemidl.h>
#include "logProcess.h"

using namespace std;
#pragma comment(lib, "wbemuuid.lib")

void getTemperature(){
    HRESULT hres;
    char* msg = ""
    hres = CoInitializeEx(0, COINIT_MULTITHREADED);
    hres = CoInitializeSecurity(
        NULL,
        -1,                                // COM authentication
        NULL,                                // Authentication services
        NULL,                                // Reserved
        RPC_C_AUTHN_LEVEL_DEFAULT,          // Default authentication
        RPC_C_IMP_LEVEL_IMPERSONATE,        // Default Impersonation
        NULL,                                // Authentication info
        EOAC_NONE,                          // Additional capabilities
        NULL                                 // Reserved
    );

    IWbemLocator *pLoc = NULL;

    hres = CoCreateInstance(
        CLSID_WbemLocator,
        0,
        CLSCTX_INPROC_SERVER,
        IID_IWbemLocator, (LPVOID *) &pLoc);

    IWbemServices *pSvc = NULL;
    hres = pLoc->ConnectServer(
        _bstr_t(L"ROOT\\WMI"), // Object path of WMI namespace
        NULL,                  // User name. NULL = current user
        NULL,                  // User password. NULL = current
        0,                    // Locale. NULL indicates current
        NULL,                 // Security flags.
        0,                    // Authority (for example, Kerberos)
        0,                    // Context object
        &pSvc                 // pointer to IWbemServices proxy
    );

    hres = CoSetProxyBlanket(
        pSvc,                  // Indicates the proxy to set

```

```

        RPC_C_AUTHN_WINNT,           // RPC_C_AUTHN_xxx
        RPC_C_AUTHZ_NONE,           // RPC_C_AUTHZ_xxx
        NULL,                        // Server principal name
        RPC_C_AUTHN_LEVEL_CALL,      // RPC_C_AUTHN_LEVEL_xxx
        RPC_C_IMP_LEVEL_IMPERSONATE, // RPC_C_IMP_LEVEL_xxx
        NULL,                        // client identity
        EOAC_NONE                    // proxy capabilities
    );

    IEnumWbemClassObject* pEnumerator = NULL;
    hres = pSvc->ExecQuery(
        bstr_t("WQL"),
        bstr_t("SELECT * FROM MSAcpi_ThermalZoneTemperature"),
        WBEM_FLAG_FORWARD_ONLY | WBEM_FLAG_RETURN_IMMEDIATELY,
        NULL,
        &pEnumerator);

    IWbemClassObject *pclsObj = NULL;
    ULONG uReturn = 0;

    while (pEnumerator){
        HRESULT hr = pEnumerator->Next(WBEM_INFINITE, 1,
            &pclsObj, &uReturn);
        if(0 == uReturn) break;
        VARIANT vtProp;
        hr = pclsObj->Get(L"CurrentTemperature", 0, &vtProp, 0, 0);
        ofstream fout;
        fout.open("C:\\test.txt",fstream::out | fstream::app);
        fout<<vtProp.bstrVal<<endl;
        VariantClear(&vtProp);
        fout.close();
        pclsObj->Release();
    }
    pSvc->Release();
    pLoc->Release();
    pEnumerator->Release();
    CoUninitialize();
}

void temper_StrToInt(){
    ifstream fin;
    char str[1024];
    int nDec[10];
    int cnt=0, i;
    fin.open("C:\\test.txt");
    if(fin.fail()){
        writeToLog("test.txt open fail");
    }
}

```

```

while(!fin.eof()){
    fin.getline((char* )str, 10);
    if(strcmp(str, "")==0) break

    nDec[cnt] = (int)strtol(str, NULL, 16);
    nDec[cnt] = (nDec[cnt] - 2732) / 10;

    sprintf(str, "%d", nDec[cnt]);
    cnt++;
}

fin.close();
ofstream fout;
fout.open("C:\\dynamicInfo.log", fstream::out | fstream::app);
for(i=0; i<cnt; i++){
    fout<<"CurrentTemperature"<<i+1<<"="<<nDec[i]<<endl;
}
fout.close();
remove("C:\\test.txt");
}

```