

# BioStar 2

## 설치 가이드

Version 2.9.6

한국어

KO 101.00.BS2

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# 시작하기

출입 통제 시스템을 구축하기 위해서 BioStar 2를 사용하려면 관리자 PC에 BioStar 2 서버를 설치해야 합니다. BioStar 2 서버는 연결된 장치로부터 이벤트 로그 및 사용자 정보 등을 전달받아 저장합니다.

BioStar 2는 손쉽게 설치할 수 있으며, 설치를 진행하기 전에 반드시 **시스템 최소 요구 사항**을 확인하세요.

BioStar 2 설치 파일은 슈프리마 홈페이지(<https://www.supremainc.com>)에서 확인할 수 있습니다.

## 시스템 최소 요구 사항

항목		소규모 조직	중간 규모 조직	대규모 조직
사용 환경	장치 수	1~50 대	51~100대	101~1,000대
시스템 환경 (서버)	운영 체제	Windows 7(SP1 이상), Windows 8, Windows 8.1, Windows 10, Windows 11, Windows Server 2008 R2(SP2 이상), Windows Server 2012, Windows Server 2012 R2, Windows Server 2016, Windows Server 2019, Windows Server 2022 • Mac OS 부트 캠프의 Windows 가상 환경은 지원되지 않습니다.		
	데이터베이스	MariaDB 10.1.10, MS SQL Server 2012 SP3, MS SQL Server 2014 SP2, MS SQL Server 2016 SP1, MS SQL Server 2017, MS SQL Server 2019 • MS SQL 보안 통신은 TLS 1.0 및 1.1을 지원합니다.		
	CPU	2 GHz 듀얼 코어	4 GHz 쿼드 코어	4 GHz 16 코어
	RAM	8 GB	16 GB	32 GB
	SSD	512 GB	1 TB	1 TB
시스템 환경 (클라이언트)	CPU	1 GHz	1 GHz	1 GHz
	RAM	4 GB	4 GB	4 GB
	웹 브라우저	Google 크롬 100 버전 이상		

## BioStar 2 Video Extension

항목	최소 사양	권장 사양
CPU	4 GHz Quad Core	4 GHz Quad Core
RAM	8 GB	16 GB
HDD	2 TB	4 TB



- 최적의 성능을 위해 64bit 운영 체제를 사용하세요.
- BioStar 2는 Google 크롬에 최적화되어 있습니다.
- **비디오** 메뉴를 사용하려면 64bits MariaDB 또는 MS SQL 데이터 베이스를 사용하세요.
- BioStar 2는 Windows 7을 지원하지만 Windows 7에 대한 Microsoft의 기술 지원이 종료되었으므로 시스템 설치 시 운영체제 선택에 유의하세요.
- Windows 8.1이나 Windows Server 2012 R2를 사용하는 경우 아래 웹 페이지를 참고하여 KB2919355 업데이트를 설치하세요.  
<https://support.microsoft.com/ko-kr/help/2919355/windows-rt-8-1--windows-8-1--and-windows-server-2012-r2-update-april-2>
- MS SQL Server와 BioStar 2가 서로 다른 PC에 설치된 경우 BioStar 2가 설치된 PC에 Native Client를 설치해야 합니다.  
<https://www.microsoft.com/ko-kr/download/details.aspx?id=50402>
- Oracle Database는 더 이상 지원되지 않습니다. 자세한 내용은 슈프리마 기술 지원팀에 문의하세요.

# BioStar 2 설치

BioStar 2는 32비트 운영 체제와 64비트 운영 체제를 지원합니다. BioStar 2를 설치하려는 PC의 시스템 종류를 확인한 뒤 올바르게 설치하세요.



- BioStar 2.9.2 버전부터는 32비트 운영체제용 설치 파일이 제공되지 않습니다.
- BioStar 1이 설치된 PC에 BioStar 2를 설치하지 마세요. 프로그램 성능에 문제가 발생할 수 있습니다.
- BioStar 2.2.1이나 2.2.2 버전이 설치된 상태에서 BioStar 2.3.0을 설치할 경우 SQLite에 저장된 모든 정보를 새로운 MariaDB로 마이그레이션합니다.
- BioStar 2 최신 버전으로의 업그레이드는 버전 2.6.0에서부터 지원됩니다. BioStar 2.6.0 이하 버전을 사용 중인 경우, 최신 버전으로 업그레이드하려면 아래와 같이 2.6.0 이하 버전의 BioStar 2를 모두 순차적으로 설치하세요.

현재 버전	업그레이드 순서
2	2.2.1 > 2.3 > 2.4 > 2.4.1 > 2.5.0 > 2.6.4 > 최신 버전
2.2 2.2.1 2.2.2	2.3 > 2.4 > 2.4.1 > 2.5.0 > 2.6.4 > 최신 버전
2.3	2.4 > 2.4.1 > 2.5.0 > 2.6.4 > 최신 버전
2.4	2.4.1 > 2.5.0 > 2.6.4 > 최신 버전
2.5 2.6	2.6.4 > 최신 버전
2.6.4 버전 이상	최신 버전

- Windows 8.1이나 Windows Server 2012 R2를 사용하는 경우 아래 웹 페이지를 참고하여 KB2919355 업데이트를 설치하세요.  
<https://support.microsoft.com/ko-kr/help/2919355/windows-rt-8-1--windows-8-1--and-windows-server-2012-r2-update-april-2>
- MS SQL 2012 Express를 사용할 경우 아래 웹 페이지를 참고하여 서비스 팩 3를 설치하세요.  
<https://www.microsoft.com/ko-kr/download/details.aspx?id=49996>
- MS SQL 2014 Express를 사용할 경우 아래 웹 페이지를 참고하여 서비스 팩 2를 설치하세요.  
<https://www.microsoft.com/ko-kr/download/details.aspx?id=53168>
- MS SQL Server와 BioStar 2가 서로 다른 PC에 설치되어 있는 경우 BioStar 2가 설치된 PC에 Native Client를 설치해야 합니다.  
<https://www.microsoft.com/ko-kr/download/details.aspx?id=50402>
- MS SQL Server를 사용할 경우 서버 및 각 테이블의 Collation 옵션을 **CI (Case-insensitive)**로 설정하세요.
- 기존 버전의 BioStar 2에서 데이터베이스를 백업할 때 모든 서비스를 사용 중지한 뒤 진행하세요. 또한, AC 데이터베이스와 TA 데이터베이스를 함께 백업하고 복원하지 않으면 TA 데이터베이스를 사용할 수 없게 됩니다.
- BioStar 2 데이터베이스를 백업하려면 \Program Files\BioStar 2(x64)\util 폴더의 enckey 파일과 \Program Files\BioStar 2(x64) 폴더의 system.conf, setting.conf 파일도 반드시 함께 백업하세요. 그렇지 않으면, 데이터베이스를 사용할 수 없게 됩니다.
- BioStar 2가 사용하는 포트의 기본 값은 아래와 같습니다. 다른 프로그램에서 동일한 포트를 점유할 경우 BioStar 2가 정상적으로 구동되지 않을 수 있습니다.

포트		
• HTTP 포트	80	사용 가능
• 웹소켓 포트	9002	사용 가능
• 데이터베이스 포트	3312	사용 가능
• 근태 HTTPS 포트	3002	사용 가능
• FastCGI 포트	9000	사용 가능
• 통합 게이트웨이 HTTPS 포트	5002	사용 가능
• 리포트 HTTPS 포트	4214	사용 가능
• HTTPS 포트	443	사용 가능
• API 포트	9010	사용 가능
• 근태 HTTP 포트	3000	사용 가능
• 근태 클라우드 포트	52001	사용 가능
• 통합 게이트웨이 HTTP 포트	5000	사용 가능
• 리포트 HTTP 포트	4213	사용 가능

사용자가 직접 구성한 데이터베이스를 사용할 경우 BioStar 2를 설치하기 전에 아래 사항을 확인하세요.

## MariaDB

- my.cnf 파일을 연 뒤 [mysqld] 하단의 설정을 아래와 같이 변경하세요.

```
character-set-server=utf8
collation-server=utf8_unicode_ci
max_connections = 600
```

- my.cnf 파일을 연 뒤 [mysqld] 하단의 설정에 아래 항목을 추가하세요.

```
log_bin_trust_function_creators = 1
group_concat_max_len = 102400
```

- root 권한으로 MariaDB에 접속하여 아래 명령어를 실행하세요.

```
> GRANT SUPER ON . TO user_id@'localhost' IDENTIFIED BY "password";
> GRANT SUPER ON . TO user_id@'%' IDENTIFIED BY "password";
```

## MS SQL Server



- 모든 데이터베이스 및 테이블의 Collation은 대소문자를 구분하지 않는 CI(case-insensitive)로 설정하세요.

### 포트 설정

- a) **SQL Server** 구성 관리자를 실행한 뒤 **SQLEXPRESS**에 대한 **프로토콜의 TCP/IP 프로토콜**을 사용하려는 포트 번호로 설정하세요.
- b) 설정을 적용하려면 **SQL Server 서비스**를 재시작하세요.

### 사용자 및 데이터베이스 생성

- a) **SQL Server Management Studio**에 **SQL Server 인증**을 이용하여 **sa** 계정으로 로그인하세요.
- b) **보안**에서 마우스 오른쪽 버튼을 클릭한 뒤 **새 로그인**을 클릭하세요.
- c) **로그인 이름** 필드에 원하는 이름을 입력한 뒤 **SQL Server 인증**을 선택하세요.
- d) **암호**와 **암호 확인** 필드에 사용하려는 암호를 입력한 뒤 **암호 정책 강제 적용**을 해제하세요.
- e) **확인**을 클릭하여 저장하세요.
- f) **데이터베이스**에서 마우스 오른쪽 버튼을 클릭한 뒤 **새 데이터베이스**를 클릭하세요.
- g) **데이터베이스 이름** 필드에 원하는 이름을 입력하세요.
- h) **소유자** 필드에 로그인 이름을 입력하세요. 로그인 이름은 c) 단계에서 설정한 것을 사용하세요.
- i) **데이터베이스 파일** 섹션에서 **처음 크기(MB)**는 **3000**으로 설정하는 것을 권장하며, **자동 증가/최대 크기**는 **10MB 단위로, 제한 없음**으로 설정하는 것을 권장합니다.

## Windows Authentication 데이터베이스 설정

### 1. 사전 설정

Microsoft Windows Active Directory를 사용할 경우 Windows Authentication 데이터베이스를 설정하기 전에 아래와 같이 사전 설정을 완료하세요.

- a) **SQL Server Management Studio**에 관리자 계정으로 로그인하세요.
- b) **보안**에서 마우스 오른쪽 버튼을 클릭한 뒤 **새 로그인**을 클릭하세요.
- c) **Windows 인증**을 선택한 뒤 **검색**을 클릭하세요.
- d) **사용자 또는 그룹 선택** 창에서 **위치**를 클릭한 뒤 Active Directory 경로를 선택하고 **확인**을 클릭하세요.
- e) 선택할 개체 이름 입력 필드에 사용자 이름을 입력한 뒤 **이름 확인** → **확인**을 클릭하세요.
- f) **페이지 선택** 항목에서 **서버 역할**을 클릭하세요.
- g) **sysadmin**을 선택한 뒤 **확인**을 클릭하세요.

- h) **페이지 선택** 항목에서 **사용자 매핑**을 클릭하세요.
- i) **ac, master, ta, ve**를 선택한 뒤 기본 스키마를 **dbo**로 설정하세요.
- j) **확인**을 클릭하여 저장하세요.

## 2. Active Directory 계정으로 MS SQL Windows Authentication을 사용하기 위한 설정

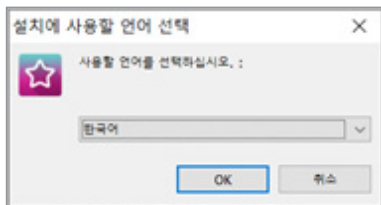
- a) **services.msc**를 실행하고 MSSQL DB의 **속성 > 로그인** 창에서 **계정 지정**을 선택하여 도메인 사용자로 로그인하세요.
- b) Windows 방화벽에 1433 포트를 예외로 추가하세요.
- c) MS SQL에 비어있는 **ac, ta, ve** 데이터베이스를 **sysadmin** 인증으로 생성하세요.
- d) MS SQL에 도메인 사용자가 Windows Authentication을 사용하도록 설정하고 **ac, ta, ve** 데이터베이스에 **sysadmin**를 제외한 나머지 모든 권한을 할당하세요.
- e) 로컬 컴퓨터를 제외한 모든 서비스를 **services.msc**에서 연결하세요.
- f) 도메인 사용자를 로컬 서비스 컴퓨터에서 관리자으로 설정하세요.
- g) MS SQL ODBC를 연결하세요.

## 3. 데이터베이스 설정

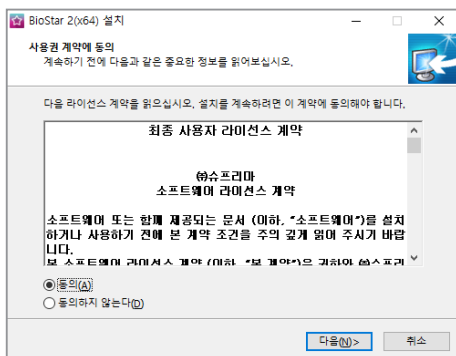
- a) **SQL Server 구성 관리자**를 실행한 뒤 **SQL Native Client** 하위의 **클라이언트 프로토콜**을 클릭하세요.
- b) **TCP/IP**를 선택한 뒤 기본 포트를 확인하세요.
- c) **SQL Server 네트워크 구성** 하위의 **SQLEXPRESS**에 대한 프로토콜을 클릭하세요.
- d) **TCP/IP**에서 ODBC 포트가 기본 포트와 동일하게 설정되었는지 확인하세요.
- e) **SQL Server Management Studio**에 관리자 계정으로 접속하세요.
- f) **보안** → **로그인**을 클릭한 뒤 **NT AUTHORITY\SYSTEM**을 더블 클릭하세요.
- g) **페이지 선택** 항목에서 **서버 역할**을 클릭하세요.
- h) **public, sysadmin**을 선택해 체크한 뒤 **확인**을 클릭하세요.
- i) **페이지 선택** 항목에서 **사용자 매핑**을 클릭하세요.
- j) **ac, master, ta, ve** 데이터베이스를 선택한 뒤 **확인**을 클릭하여 저장하세요.

1 다운로드한 설치 프로그램을 더블 클릭하세요. (ex. BioStar 2 Setup.x.x.x.xxx.exe)

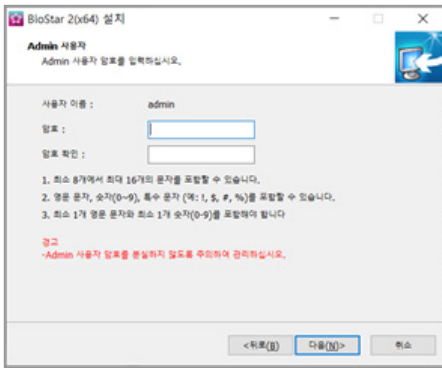
2 사용할 언어를 선택한 뒤 **OK**를 클릭하세요.



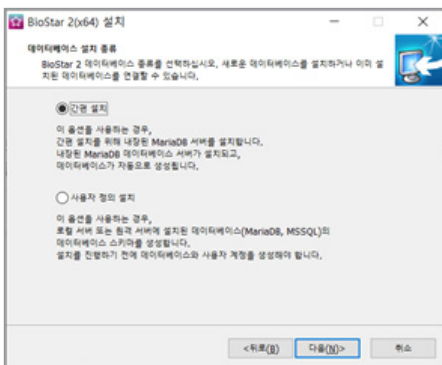
3 설치를 계속하려면 **동의**를 선택한 뒤 **다음**을 클릭하세요.



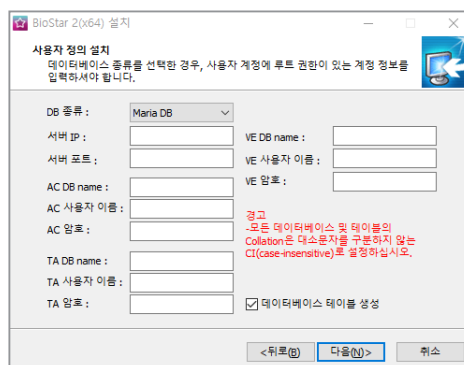
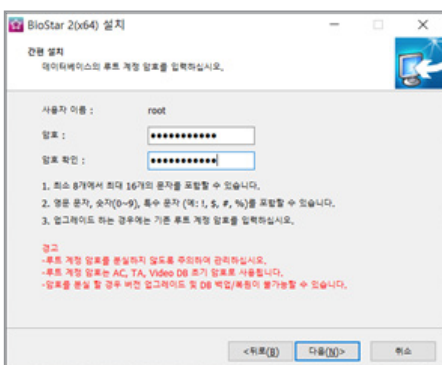
4 관리자 계정의 암호를 입력한 뒤 **다음**을 클릭하세요. 이 단계에서 설정한 암호는 BioStar 2에 처음 로그인할 때 사용됩니다.



5 BioStar 2에서 사용할 데이터베이스를 설치하세요. 새로운 MariaDB를 설치하거나 이미 설치된 MariaDB에 연결할 수 있습니다. BioStar 2를 처음 설치하는 경우 **간편 설치**를 선택한 뒤 **다음**을 클릭하세요.



6 데이터베이스 설치 종류에서 **간편 설치**를 선택했을 경우 데이터베이스의 관리자 계정 암호를 입력한 뒤 **다음**을 클릭하세요. 데이터베이스 설치 종류에서 **사용자 정의 설치**를 선택했을 경우 이미 구성된 데이터베이스의 세부 정보를 입력한 뒤 **다음**을 클릭하세요.



• BioStar 2가 지원하는 데이터베이스는 아래와 같습니다.

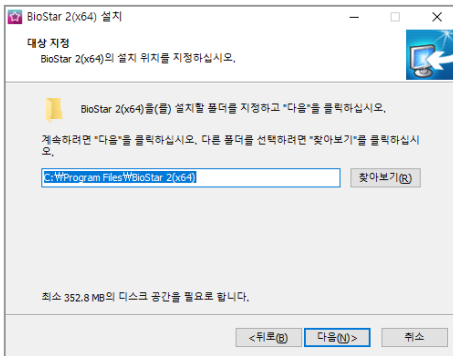
- MariaDB 10.1.10
- MS SQL Server 2012 SP3
- MS SQL Server 2014 SP2
- MS SQL Server 2016 SP1
- MS SQL Server 2017
- MS SQL Server 2019

• MS SQL 보안 통신은 TLS 1.0 및 1.1을 지원합니다.

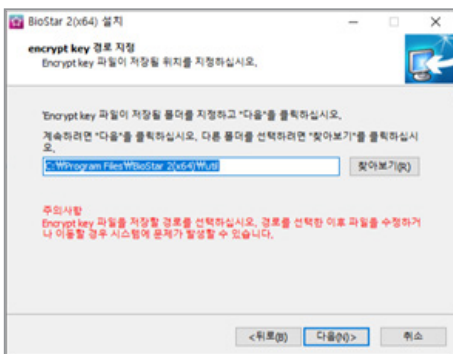
• MS SQL Server를 데이터베이스 종류로 설정했을 때 데이터베이스 테이블 생성에 실패했다면 C:\Program Files\BioStar 2(x64)\dbscript\mssql 폴더의 스크립트를 실행하여 테이블을 생성할 수 있습니다.

• 사용자 정의 설치를 진행할 때 **AC DB name**, **TA DB name**, **VE DB name**은 동일하게 설정할 수 없습니다.

## 7 BioStar 2를 설치할 경로를 설정한 뒤 다음을 클릭하세요.

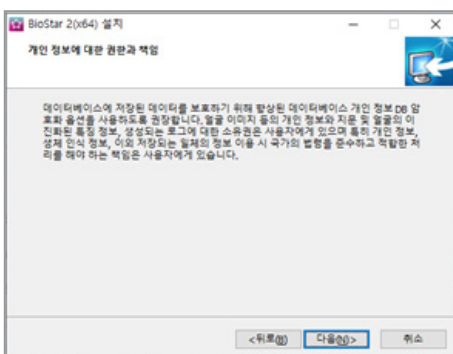


## 8 암호화 키를 저장할 경로를 설정한 뒤 다음을 클릭하세요.



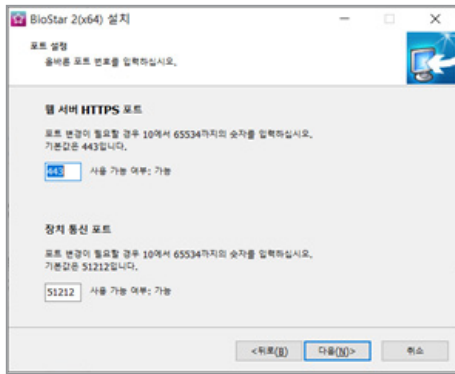
- 암호화 키 저장 경로를 직접 설정할 수 있습니다. 단, 경로를 선택한 이후에 암호화 키 파일을 수정하거나 다른 경로로 이동할 경우 시스템 오류가 발생할 수 있습니다.
- BioStar 2를 삭제할 경우 암호화 키 파일도 함께 삭제됩니다.

## 9 데이터베이스에 저장되는 개인 정보 관리 권한 및 책임에 대한 안내를 읽고 설치를 계속하려면 다음을 클릭하세요.



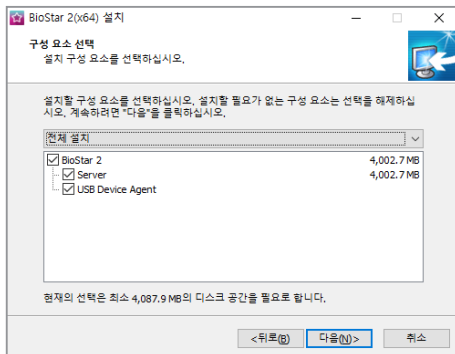


10 BioStar 2의 포트를 설정한 뒤 **다음**을 클릭하세요.

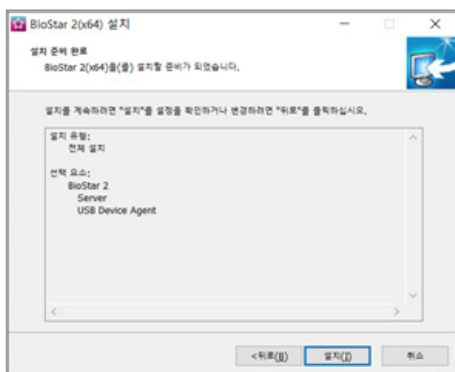


- BioStar 1과 BioStar 2를 같은 PC에 설치한 경우 장치 통신 포트(51212)를 사용할 수 없습니다. 이 경우 BioStar 1을 제거하는 것을 권장합니다.

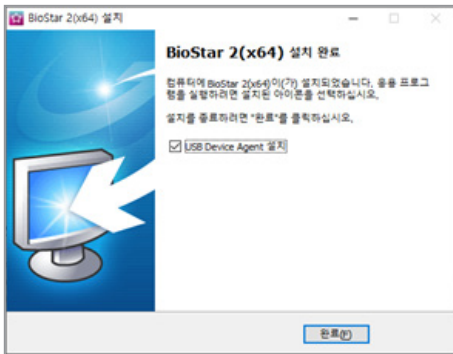
11 BioStar 2의 구성 요소를 선택한 뒤 **다음**을 클릭하세요. **USB Device Agent**를 선택하면 BioMini, BioMini Plus 2, DUALi DE-620을 사용하기 위한 USB Agent와 드라이버가 함께 설치됩니다.



12 설치 준비가 완료되었다면 **설치**를 클릭하세요.



13부가 프로그램 설치 여부를 선택한 뒤 **완료**를 클릭하세요. 화면의 지시에 따라 설치를 완료하세요.



- 제공된 USB Device Agent 인증서는 로컬 네트워크에만 적용할 수 있습니다.
- 다른 프로그램에서 443 포트를 사용하고 있을 경우 BioStar 2 Setting 프로그램이 자동으로 실행되어 포트 번호를 변경할 수 있습니다. 포트 번호 변경에 대한 내용은 **BioStar 2 포트 변경**을 참고하세요.
- 데이터베이스 설정 변경에 대한 내용은 **BioStar 2 데이터베이스 변경**을 참고하세요.

# 로그인

BioStar 2는 웹 기반 서비스를 제공하므로, 아이디와 비밀번호만 기억해 두면 어디서든 접속할 수 있습니다.

## 1 웹 브라우저를 실행하세요.

- 크롬 100 버전 이상인 웹 브라우저를 사용하세요.

## 2 BioStar 2를 실행하세요.

- BioStar 2를 설치한 PC에서 실행할 경우 웹 브라우저 주소 입력창에 'https://127.0.0.1'을 입력하세요.
- BioStar 2를 다른 PC에 설치한 경우 웹 브라우저 주소 입력창에 'https://BioStar 2 서버 IP 주소'를 입력하세요.
- 'Localhost'를 BioStar 2 접속 주소로 사용하지 마세요.



- BioStar 2는 443 포트를 기본값으로 사용합니다. 443 포트를 사용하는 프로그램이 있다면 종료한 뒤 다시 접속을 시도하세요. 해당 프로그램을 종료할 수 없다면 'BioStar 2 Setting'을 실행하여 포트 번호를 변경하세요. 자세한 내용은 **BioStar 2 포트 변경**을 참고하세요.

## 3 관리자 계정으로 로그인하세요. 관리자 계정 아이디는 admin이며, 처음 로그인할 때는 웹 브라우저의 주소 표시줄에 **안전하지 않음** 경고가 표시됩니다.

⚠ 안전하지 않음 | https://127.0.0.1/#/login

## 4 HTTPS를 올바르게 사용하기 위해 BioStar 2가 설치된 PC의 IP 주소를 등록하세요. **HTTPS 인증서 설치 프로그램 다운로드**를 클릭하세요.

**BioStar 2**

[도움이 필요하세요?](#)

ID

암호

**로그인**

[HTTPS 인증서 설치 프로그램 다운로드](#)

## 5 다운로드한 파일의 압축을 해제한 뒤 **cert-register.exe** 파일을 실행하세요. **Enrollment Certification** 창이 나타납니다.

Enrollment Certification

Server Address :

**Enrollment** **Cancel**

## 6 BioStar 2가 설치된 PC의 IP 주소를 입력한 뒤 **Enrollment**를 클릭하세요.

## 7 보안 경고 메시지를 확인한 뒤 **예**를 클릭하세요.

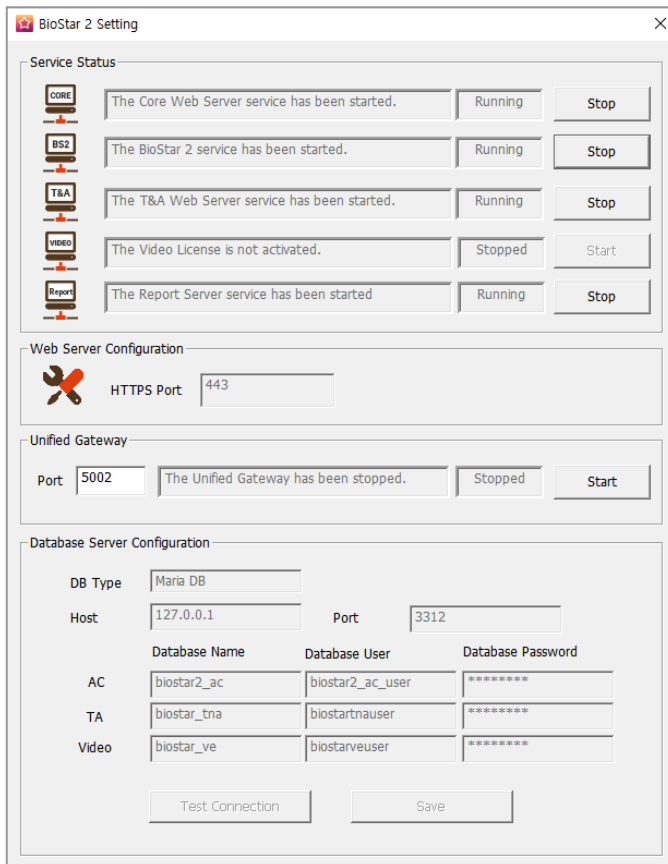
## 8 웹 브라우저를 다시 시작한 뒤 등록된 IP 주소를 입력하면 아래와 같이 웹 브라우저의 주소 표시줄에 **안전함** 표시가 나타납니다.

🔒 안전함 | https://192.168.14.54/#/login

## BioStar 2 서버 관리

BioStar 2 서버의 상태를 확인하고 서버를 종료하거나 시작할 수 있습니다.

1  시작 → BioStar 2 → BioStar 2 Setting을 클릭하세요.




**BioStar 2 Setting**

**Service Status**

Service	Status	Action
CORE	The Core Web Server service has been started.	Running   Stop
BS2	The BioStar 2 service has been started.	Running   Stop
T&A	The T&A Web Server service has been started.	Running   Stop
VIDEO	The Video License is not activated.	Stopped   Start
Report	The Report Server service has been started	Running   Stop

**Web Server Configuration**

 HTTPS Port: 443

**Unified Gateway**

Port: 5002 | The Unified Gateway has been stopped. | Stopped | Start

**Database Server Configuration**

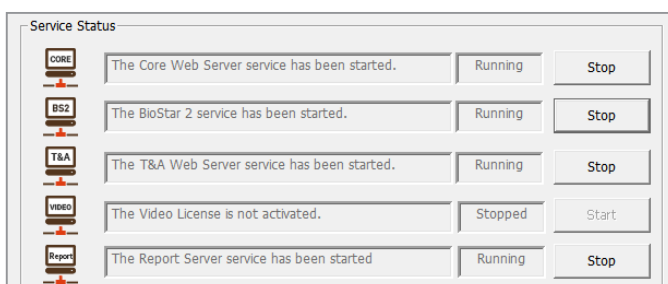
DB Type: Maria DB

Host: 127.0.0.1 | Port: 3312

	Database Name	Database User	Database Password
AC	biostar2_ac	biostar2_ac_user	*****
TA	biostar_tna	biostartnauser	*****
Video	biostar_ve	biostarveuser	*****

Test Connection | Save

2 종료할 서버의 **Stop** 버튼을 클릭하세요.



**BioStar 2 Setting**

**Service Status**

Service	Status	Action
CORE	The Core Web Server service has been started.	Running   Stop
BS2	The BioStar 2 service has been started.	Running   Stop
T&A	The T&A Web Server service has been started.	Running   Stop
VIDEO	The Video License is not activated.	Stopped   Start
Report	The Report Server service has been started	Running   Stop

3 서버를 다시 시작하려면 **Start** 버튼을 클릭하세요.



**BioStar 2 Setting**

**Service Status**

Service	Status	Action
CORE	The Core Web Server service has been stopped.	Stopped   Start
BS2	The BioStar 2 service has been started.	Running   Stop
T&A	The T&A Web Server service has been started.	Running   Stop
VIDEO	The Video License is not activated.	Stopped   Start
Report	The Report Server service has been started	Running   Stop



- BioStar 2 서버의 시간 설정이 변경된 경우 Core Web Server를 종료한 뒤 다시 시작하세요. 그렇지 않을 경우 BioStar 2가 올바르게 동작하지 않을 수 있습니다.

## BioStar 2 포트 변경

BioStar 2의 실행 포트를 변경할 수 있습니다. BioStar 2가 443 포트를 사용할 수 없을 때 BioStar 2 Setting을 실행하여 포트를 변경하세요.



- MS SQL을 데이터베이스로 사용할 경우 BioStar 2에서 포트 정보를 변경하면 데이터베이스에서도 직접 포트를 수정해야 합니다. 그렇지 않을 경우 BioStar 2와 데이터베이스의 연결이 끊어져 올바르게 동작하지 않을 수 있습니다.

### BioStar 2 Setting을 이용하여 변경하기 (HTTPS)

1 시작 → BioStar 2 → BioStar 2 Setting을 클릭하세요.

**BioStar 2 Setting**

**Service Status**

Service	Status	Action
CORE	The Core Web Server service has been started.	Running / Stop
BS2	The BioStar 2 service has been started.	Running / Stop
T&A	The T&A Web Server service has been started.	Running / Stop
VIDEO	The Video License is not activated.	Stopped / Start
Report	The Report Server service has been started.	Running / Stop

**Web Server Configuration**

HTTPS Port: 443

**Unified Gateway**

Port: 5002 | The Unified Gateway has been stopped. | Stopped / Start

**Database Server Configuration**

DB Type: Maria DB

Host: 127.0.0.1 | Port: 3312

	Database Name	Database User	Database Password
AC	biostar2_ac	biostar2_ac_user	*****
TA	biostar_tna	biostartnauser	*****
Video	biostar_ve	biostarveuser	*****

Test Connection | Save

2 모든 BioStar 2 서비스의 **Stop** 버튼을 클릭하세요. HTTPS Port가 활성화 됩니다.

3 HTTPS Port 필드에 사용하려는 포트 번호를 입력하세요.

**BioStar 2 Setting**

**Service Status**

Service	Status	Action
CORE	The Core Web Server service has been stopped.	Stopped / Start
BS2	The BioStar 2 service has been stopped.	Stopped / Start
T&A	The T&A Web Server service has been stopped.	Stopped / Start
VIDEO	The Video License is not activated.	Stopped / Start
Report	The Report Server service has been stopped.	Stopped / Start

**Web Server Configuration**

HTTPS Port: 443

4 모든 BioStar 2 서비스의 **Start** 버튼을 클릭하세요.

5 BioStar 2를 실행하세요. 포트 번호를 '450'으로 변경했을 경우 'IP address:450'을 입력하세요.

## BioStar 2에 접속하여 모든 포트 변경하기



- 활성화된 라이선스에 따라 설정할 수 있는 항목이 달라집니다.

**1** BioStar 2에 로그인한 뒤 **포트**를 클릭하세요. BioStar 2에서 사용 중인 모든 포트가 표시됩니다.

포트	
• HTTP 포트	80  사용 가능
• 웹소켓 포트	9002  사용 가능
• 데이터베이스 포트	3312  사용 가능
• 근태 HTTPS 포트	3002  사용 가능
• FastCGI 포트	9000  사용 가능
• 통합 게이트웨이 HTTPS 포트	5002  사용 가능
• 리포트 HTTPS 포트	4214  사용 가능
• HTTPS 포트	443  사용 가능
• API 포트	9010  사용 가능
• 근태 HTTP 포트	3000  사용 가능
• 근태 클라우드 포트	52001  사용 가능
• 통합 게이트웨이 HTTP 포트	5000  사용 가능
• 리포트 HTTP 포트	4213  사용 가능

**2** 수정할 포트의 을 클릭한 뒤 원하는 값을 입력하세요.

**3** 설정을 저장하려면 **확인**을 클릭하세요.

## 통합 게이트웨이 설정

BioStar 2의 실행 포트를 통합 게이트웨이로 변경할 수 있습니다.

통합 게이트웨이는 리버스 프록시 방식을 통하여 BioStar 2 서버에 대한 요청을 효율적으로 처리할 수 있게 해주며 iframe의 보안 취약점을 개선하고 SSL 인증서 오류를 최소화합니다.



- BioStar 2 설치 및 업그레이드 시 **통합 게이트웨이**는 **비활성** 상태이며, 포트 초기값은 다음과 같습니다.
  - 통합 게이트웨이 **HTTPS** 포트: 5002
  - 통합 게이트웨이 **HTTP** 포트: 5000

### BioStar 2 Setting에서 통합 게이트웨이 설정하기

1 시작 → BioStar 2 → BioStar 2 Setting을 클릭하세요.

The screenshot shows the BioStar 2 Setting window. It has four main sections:

- Service Status:** A table showing the status of various services.
 

Service	Status	Action
CORE	The Core Web Server service has been started.	Running / Stop
BS2	The BioStar 2 service has been started.	Running / Stop
T&A	The T&A Web Server service has been started.	Running / Stop
VIDEO	The Video License is not activated.	Stopped / Start
Report	The Report Server service has been started.	Running / Stop
- Web Server Configuration:** A section with a wrench icon and a text field for 'HTTPS Port' set to 443.
- Unified Gateway:** A section with a text field for 'Port' set to 5002 and buttons for 'Start' and 'Stop'. The status text says 'The Unified Gateway has been stopped.'.
- Database Server Configuration:** A section with fields for 'DB Type' (Maria DB), 'Host' (127.0.0.1), and 'Port' (3312). Below these is a table for database credentials:
 

	Database Name	Database User	Database Password
AC	biostar2_ac	biostar2_ac_user	*****
TA	biostar_tna	biostartnauser	*****
Video	biostar_ve	biostarveuser	*****

 At the bottom are 'Test Connection' and 'Save' buttons.

2 Unified Gateway 부분의 **Start** 버튼을 클릭하세요. 통합 게이트웨이가 활성화됩니다.



- 통합 게이트웨이를 활성화하면 서버가 재시작됩니다.
- 사용중인 포트일 경우 팝업 메시지가 나타납니다. 다른 포트 번호를 입력하고 다시 활성화하세요.

3 HTTPS 접속 상태일 경우 **HTTPS Port** 필드가 5002로 변경되고 **Unified Gateway**의 **Port** 필드는 443으로 변경됩니다. 포트를 변경하려면 **Stop**을 클릭하여 **Unified Gateway**를 정지한 다음 변경하세요.

The screenshot shows the BioStar 2 Setting window after the Unified Gateway has been stopped. The 'Web Server Configuration' section now shows 'HTTPS Port' as 5002. The 'Unified Gateway' section now shows 'Port' as 443 and the status as 'Running'. The 'Start' button is now disabled, and the 'Stop' button is active.

## BioStar 2에 접속하여 통합 게이트웨이 설정하기

1 설정 > 시스템 보안을 클릭하세요.

2 통합 게이트웨이 설정에서 통합 게이트웨이를 활성화하세요.

통합 게이트웨이 설정	
• 통합 게이트웨이	<input checked="" type="checkbox"/> 활성화



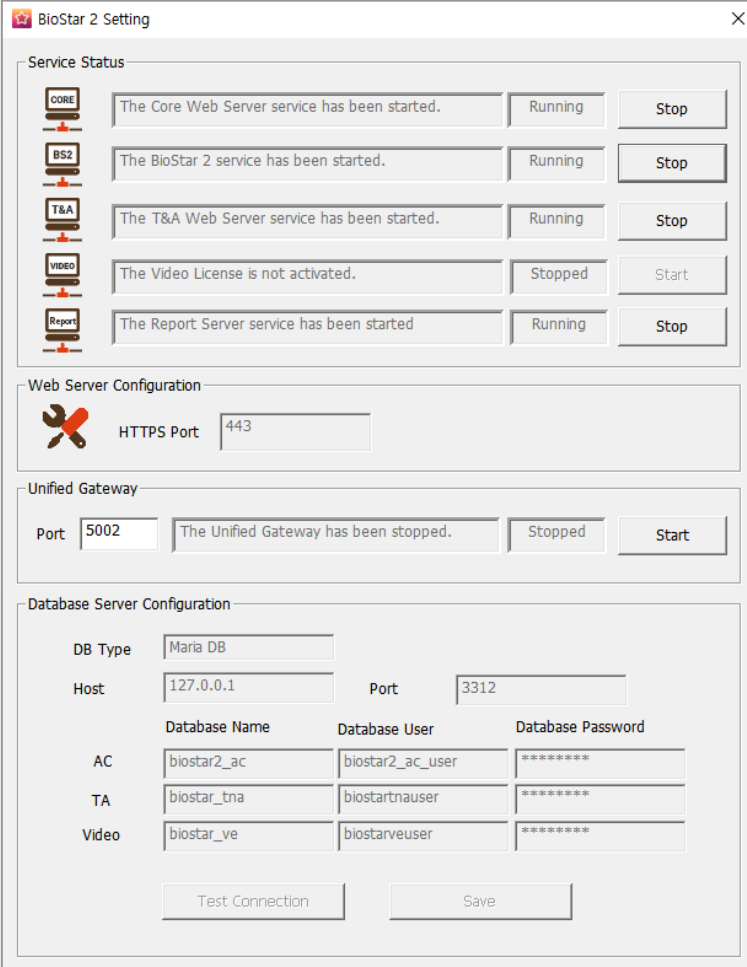
- 통합 게이트웨이를 활성화하면 서버가 재시작되며 자동으로 로그인 페이지로 이동합니다.
- 사용중인 포트일 경우 팝업 메시지가 나타납니다. 다른 포트 번호를 입력하고 다시 활성화하세요.



## BioStar 2 데이터베이스 변경






BioStar 2의 데이터베이스의 설정을 변경할 수 있습니다.

1  시작 → BioStar 2 → BioStar 2 Setting을 클릭하세요.




**BioStar 2 Setting**

**Service Status**

	The Core Web Server service has been started.	Running	Stop
	The BioStar 2 service has been started.	Running	Stop
	The T&A Web Server service has been started.	Running	Stop
	The Video License is not activated.	Stopped	Start
	The Report Server service has been started.	Running	Stop

**Web Server Configuration**

 HTTPS Port

**Unified Gateway**

Port  The Unified Gateway has been stopped. Stopped Start

**Database Server Configuration**

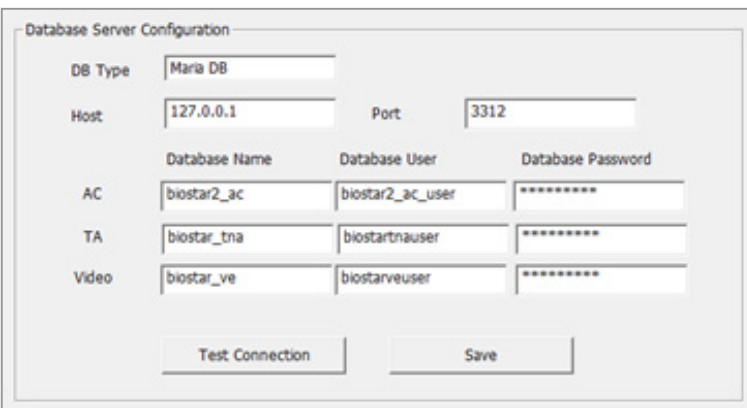
DB Type

Host  Port

	Database Name	Database User	Database Password
AC	biostar2_ac	biostar2_ac_user	*****
TA	biostar_tna	biostartnauser	*****
Video	biostar_ve	biostarveuser	*****

Test Connection Save

2 모든 BioStar 2 서비스의 **Stop** 버튼을 클릭하세요. **Database Server Configuration**이 활성화됩니다.



**Database Server Configuration**

DB Type

Host  Port

	Database Name	Database User	Database Password
AC	biostar2_ac	biostar2_ac_user	*****
TA	biostar_tna	biostartnauser	*****
Video	biostar_ve	biostarveuser	*****

Test Connection Save

3 각 항목을 변경하세요. 각 항목에 대한 정보가 확실하지 않다면 시스템 관리자에게 문의하세요.

4 **Test Connection**을 클릭하여 데이터베이스가 올바르게 설정되었는지 확인하세요.

5 설정을 저장하려면 **Save**를 클릭하세요.

## 면책 조항

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### MariaDB LGPL client libraries for C and Java

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<https://github.com/danieleggert/minizip>

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Even Rouault - ZIP64 unzip Support

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### THE BASIC LIBRARY FUNCTIONS

Written by: Philip Hazel  
 Email local part: ph10  
 Email domain: cam.ac.uk

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## Redux Toolkit

<https://redux-toolkit.js.org/>

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## Autoprefixer

<https://github.com/postcss/autoprefixer>

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## Axios

<https://xn--xy1bk56a.run/axios/guide/api.html>

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## Classnames

<https://www.npmjs.com/package/classnames>

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## Day.js

<https://day.js.org/>

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**i18next-http-backend**

<https://www.npmjs.com/package/i18next-http-backend>

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**Immer**

<https://immerjs.github.io/immer/>

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**prop-types**

<https://www.npmjs.com/package/prop-types>

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## React Hook Form

<https://react-hook-form.com/>

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## React

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**react-i18next**

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**react-number-format**

<https://www.npmjs.com/package/react-number-format>

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## React Redux

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## redux-persist

<https://github.com/rt2zz/redux-persist>

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