# BioStar 2.9.4 관리자 가이드

한국어 KO 102.00.BS2.V2.9.4



1	BioStar 2		1
			3
			4
2			45
			45
	BioStar 2		47
3			58
	BioStar 2		60
	BioStar 2		61
			64
	BioStar 2		66
4			68
5			71
6			72
			74
			75
			78
	Wiegand		78
	G		79
	CoreStation	OSDP	80
	Corcolation	OSDI	
			86
			87
			88
			90
			91
			95
			103 114
	IP		117
	rtsp		120
	DM-20		120

	OM-120		121
	IM-120		122
	CoreStation		125
	Wiegand		131
	U&Z		133
7			134
			134
	가		136
			136
			137
			138
			140
			141
			142
8			143
			143
	가		145
			145
			146
			147
			149
			149
9			150
			151
			152
			153
			154
10			155
			156
			158
	CSV		162
		가	165
			168
	PIN		168
			169
			171
			173

		174
		181
		189
	QR/	194
	1:1	196
		197
		197
		198
		199
		200
11		201
"		202 202
		204
		206
		207
		208
		212
		214
		215
12		220
		220
		221
		224
		225
		226
		227
		228
		229
		230 231
		232
		234
		234
10		235
13		238

	NVR 가	239
	IP 가	241
	IP	242
14		244
		246
		246
		247
		253
		254
		256
		260
		264
		267
15		268
		269
		270
		272
		274
		274
		279
		280
		281
16		281 282
		282
		284
		285
17	BioStar 2	286
		287
	가	288
		291
		292
	Wiegand	293
		294
	Wiegand	294
		205

		298
		304
		308
		308
	HTTPS	309
		309
		31.
	USB Agent	313
		314
		31!
		310
		317
		318
		323
		325
		326
		33
	Airfob Portal	333
		334 337
		34
		344
		34!
		347
18		348
19		348
		349
		350
		350
		500

BioStar 2 PC ,

.

,API, ,SDK

.

_		1,000
_	(RS-485)	31 ( 8 )
	RS-485	OSDP
_		
_		/ /
_		&
<u> </u>	USB	BioMini, BioMini Plus 2, DUALi DE-620
_		8
_		10
_		
_		
	iCLASS Seos	
_		
_		
		2,048 ( )
_		2,048 ( )
_		16
_		128
_		128
_		
_	/ /	-

	192
	2,048
	100
	1,000 ,32
	, ,
	,
1	( )
	( )
	( )
	( )
	( )
API	
BioStar 2 Mobile App	( , , , )

, ,

Ŷ

.

2

	(					
	1,000	1,000	1,000	1,000	1,000	1,000
	5	20	50	100	300	1,000
	-	-				
	-	-	-			
	-	-	-			
	-	-	-			
	-	-				
	-	-	-			

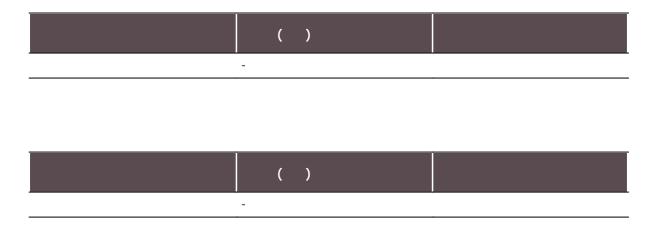
Ŷ

**■** 가

( )			
100	500	1,000	

Ş

**■** 가



#### BioStar 2.9.4

• UI
<b>.</b> 가
 •
■ BioStation 2a ■ CoreStation U&Z

■ BioLite Net: 2.3.5

■ BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

XPass: 2.4.4

XPass S2: 2.4.4

■ BioStation 2: 1.10.1

■ BioStation A2: 1.9.1

■ BioStation L2: 1.6.1

■ BioEntry W2: 1.7.1

FaceStation 2: 1.5.3

CoreStation: 1.6.1

■ BioEntry P2: 1.4.4

■ BioEntry R2: 1.4.1

■ BioLite N2: 1.6.0

XPass D2: 1.3.2

XPass D2 (Rev 2): 1.7.1

FaceLite: 1.3.4

XPass 2: 1.3.2

■ FaceStation F2: 2.1.4

X-Station 2: 1.2.2

■ OM-120: 1.2.1

Secure I/O 2: 1.3.1

■ DM-20: 1.2.2

■ IM-120: 1.0.0

■ BioStation 3: 1.1.1

#### BioStar 2.9.3

•			가			
,	,	,	,	,	,	,
<ul><li>XPass D2</li><li>BioStation</li></ul>	n 3 QR					
•	가					
•		가				

BioLite Net: 2.3.5

BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

■ XPass: 2.4.4

- XPass S2: 2.4.4
- BioStation 2: 1.10.1
- BioStation A2: 1.9.1
- BioStation L2: 1.6.1
- BioEntry W2: 1.7.1
- FaceStation 2: 1.5.3
- CoreStation: 1.6.1
- BioEntry P2: 1.4.4
- BioEntry R2: 1.4.1
- BioLite N2: 1.5.0
- XPass D2: 1.3.2
- XPass D2 (Rev 2): 1.7.1
- FaceLite: 1.3.4
- XPass 2: 1.3.2
- FaceStation F2: 2.1.3
- X-Station 2: 1.2.2
- OM-120: 1.2.1
- Secure I/O 2: 1.3.1
- DM-20: 1.2.2
- IM-120: 1.0.0
- BioStation 3: 1.1.0

#### BioStar 2.9.2

•

■ BioLite Net: 2.3.5

■ BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

XPass: 2.4.4

XPass S2: 2.4.4

- BioStation 2: 1.10.1
- BioStation A2: 1.9.1
- BioStation L2: 1.6.1
- BioEntry W2: 1.7.1
- FaceStation 2: 1.5.3
- CoreStation: 1.5.3
- BioEntry P2: 1.4.4
- BioEntry R2: 1.4.1
- BioLite N2: 1.5.0
- XPass D2: 1.3.2
- XPass D2 (Rev 2): 1.7.0
- FaceLite: 1.3.4
- XPass 2: 1.3.2
- FaceStation F2: 2.1.2
- X-Station 2: 1.2.0
- OM-120: 1.2.1
- Secure I/O 2: 1.3.1
- DM-20: 1.2.2
- IM-120: 1.0.0
- BioStation 3: 1.0.2

#### BioStar 2.9.1

•		가
■ CSV		
■ CoreStation	OSDP	

■ BioLite Net: 2.3.5

BioEntry Plus: 2.3.4

- BioEntry W: 2.3.4
- XPass: 2.4.4
- XPass S2: 2.4.4
- BioStation 2: 1.10.1
- BioStation A2: 1.9.1
- BioStation L2: 1.6.1
- BioEntry W2: 1.7.1
- FaceStation 2: 1.5.3
- CoreStation: 1.5.3
- BioEntry P2: 1.4.4
- BioEntry R2: 1.4.1
- BioLite N2: 1.5.0
- XPass D2: 1.3.2
- XPass D2 (Rev 2): 1.7.0
- FaceLite: 1.3.4
- XPass 2: 1.3.2
- FaceStation F2: 2.1.2
- X-Station 2: 1.2.0
- OM-120: 1.2.1
- Secure I/O 2: 1.3.1
- DM-20: 1.2.2
- IM-120: 1.0.0
- BioStation 3: 1.0.2

• 가
▶ 가
 ■ 가
■ BioStation 3(BS3-DB, BS3-APWB)

	•
	ı

■ BioLite Net: 2.3.5

■ BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

■ XPass: 2.4.4

XPass S2: 2.4.4

BioStation 2: 1.10.1

BioStation A2: 1.9.1

■ BioStation L2: 1.6.1

■ BioEntry W2: 1.7.0

FaceStation 2: 1.5.2

CoreStation: 1.5.2

■ BioEntry P2: 1.4.3

■ BioEntry R2: 1.4.1

BioLite N2: 1.5.0

XPass D2: 1.3.2

XPass D2 (Rev 2): 1.6.0

FaceLite: 1.3.2

XPass 2: 1.3.1

FaceStation F2: 2.0.3

X-Station 2: 1.1.3

OM-120: 1.2.1

Secure I/O 2: 1.3.1

■ DM-20: 1.2.2

■ IM-120: 1.0.0

	•
	-

■ BioLite Net: 2.3.5

■ BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

XPass: 2.4.4

XPass S2: 2.4.4

■ BioStation 2: 1.10.1

BioStation A2: 1.9.1

■ BioStation L2: 1.6.1

■ BioEntry W2: 1.6.3

FaceStation 2: 1.5.1

CoreStation: 1.5.2

BioEntry P2: 1.4.3

■ BioEntry R2: 1.4.1

BioLite N2: 1.4.1

XPass D2: 1.3.2

XPass D2 (Rev 2): 1.6.0

FaceLite: 1.3.2

XPass 2: 1.2.4

FaceStation F2: 2.0.3

X-Station 2: 1.1.3

OM-120: 1.2.1

Secure I/O 2: 1.3.1

■ DM-20: 1.2.2

■ IM-120: 1.0.0

•	가	
setting.config	가	
•		가
• ,		
-		
-	가	
■ CSV		가
•	가	
 ■ QR	가	
■ USB Device Agent		
•	가	
■ CoreStation	X-Station 2	
•	가	
•	' 가	
•		
•		
-		
-		
•		
•	가	
-	BioStar 2	

■ BioLite Net: 2.3.5

■ BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

XPass: 2.4.4

■ XPass S2: 2.4.4

■ BioStation 2: 1.10.1

■ BioStation A2: 1.9.1

BioStation L2: 1.6.1

■ BioEntry W2: 1.6.3

■ FaceStation 2: 1.5.1

■ CoreStation: 1.5.2

■ BioEntry P2: 1.4.3

■ BioEntry R2: 1.4.1

■ BioLite N2: 1.4.1

XPass D2: 1.3.2

XPass D2 (Rev 2): 1.6.0

FaceLite: 1.3.2

XPass 2: 1.2.4

FaceStation F2: 1.1.4

X-Station 2: 1.1.3

■ OM-120: 1.2.1

Secure I/O 2: 1.3.1

■ DM-20: 1.2.2

■ IM-120: 1.0.0

#### **BioStar 2.8.15**

■ Log4j 2 2.17.1
•

■ BioLite Net: 2.3.5

■ BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

XPass: 2.4.4

XPass S2: 2.4.4

BioStation 2: 1.10.0

■ BioStation A2: 1.9.0

BioStation L2: 1.6.1

BioEntry W2: 1.6.3

■ FaceStation 2: 1.5.1

CoreStation: 1.5.2

■ BioEntry P2: 1.4.3

BioEntry R2: 1.4.1

BioLite N2: 1.4.1

XPass D2: 1.3.2

XPass D2 (Rev 2): 1.5.0

■ FaceLite: 1.3.1

XPass 2: 1.2.4

FaceStation F2: 1.1.2

X-Station 2: 1.1.2

■ OM-120: 1.2.1

Secure I/O 2: 1.3.1

■ DM-20: 1.2.2

■ IM-120: 1.0.0

■ OpenJDK
■ Log4j 2 2.16.0
•
■ Swagger API
-
 ■ BioStar 1.x to BioStar 2.x Migration Tool 26 bit Wiegand
■ CSV PIN
■ Input Module (IM-120)
■ CoreStation 1:N
-
 •
-

•
 •
•

■ BioLite Net: 2.3.5

■ BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

XPass: 2.4.4

XPass S2: 2.4.4

BioStation 2: 1.10.0

■ BioStation A2: 1.9.0

BioStation L2: 1.6.1

BioEntry W2: 1.6.3

FaceStation 2: 1.5.0

CoreStation: 1.5.2

BioEntry P2: 1.4.2

BioEntry R2: 1.4.1

■ BioLite N2: 1.4.1

XPass D2: 1.3.2

XPass D2 (Rev 2): 1.5.0

■ FaceLite: 1.3.0

XPass 2: 1.2.4

FaceStation F2: 1.1.2

X-Station 2: 1.1.0

■ OM-120: 1.2.0

Secure I/O 2: 1.3.0

■ DM-20: 1.2.1

■ IM-120: 1.0.0

■ API 가
• 가 SSL
■ TLS 1.2
■ Swagger TA API
•

BioLite Net: 2.3.5

■ BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

■ XPass: 2.4.4

XPass S2: 2.4.4

■ BioStation 2: 1.10.0

■ BioStation A2: 1.9.0

■ BioStation L2: 1.6.1

BioEntry W2: 1.6.3

■ FaceStation 2: 1.5.0

CoreStation: 1.5.1

BioEntry P2: 1.4.1

BioEntry R2: 1.4.1

■ BioLite N2: 1.4.0

XPass D2: 1.3.2

XPass D2 (Rev 2): 1.5.0

■ FaceLite: 1.3.0

XPass 2: 1.2.3

■ FaceStation F2: 1.1.1

X-Station 2: 1.1.0

■ OM-120: 1.2.0

Secure I/O 2: 1.3.0

■ DM-20: 1.2.1

■ X-Station 2	(XS2-ODPB, XS2-OAPB)

BioLite Net: 2.3.5

BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

XPass: 2.4.4

XPass S2: 2.4.4

BioStation 2: 1.10.0

■ BioStation A2: 1.9.0

■ BioStation L2: 1.6.1

■ BioEntry W2: 1.6.3

FaceStation 2: 1.5.0

CoreStation: 1.5.1

BioEntry P2: 1.4.1

■ BioEntry R2: 1.4.1

■ BioLite N2: 1.4.0

XPass D2: 1.3.2

XPass D2 (Rev 2): 1.5.0

■ FaceLite: 1.3.0

XPass 2: 1.2.3

FaceStation F2: 1.1.1

X-Station 2: 1.0.3

■ OM-120: 1.2.0

Secure I/O 2: 1.3.0

■ DM-20: 1.2.1

■ Swagger API
•
•
- QR/
X-Station 2 (XS2-QDPB, XS2-QAPB, XS2-DPB, XS2-APB)
•
■ QR/

- BioLite Net: 2.3.5
- BioEntry Plus: 2.3.4
- BioEntry W: 2.3.4
- XPass: 2.4.4
- XPass S2: 2.4.4
- BioStation 2: 1.9.0
- BioStation A2: 1.8.0
- BioStation L2: 1.6.1
- BioEntry W2: 1.6.3
- FaceStation 2: 1.4.2
- CoreStation: 1.5.1
- BioEntry P2: 1.4.1
- BioEntry R2: 1.4.1
- BioLite N2: 1.3.2
- XPass D2: 1.3.2
- XPass D2 (Rev 2): 1.5.0
- FaceLite: 1.2.0
- XPass 2: 1.2.3
- FaceStation F2: 1.0.5
- X-Station 2: 1.0.1
- OM-120: 1.2.0
- Secure I/O 2: 1.3.0
- DM-20: 1.2.1

#### **BioStar 2.8.10**

New Local API	
 •	
• '	(Drag&Drop)
•	
 <b>■</b>	
-	가
OSDP Intelligent Slave	
 ■ FaceStation 2, FaceStation F2	
•	

BioLite Net: 2.3.5

■ BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

■ XPass: 2.4.4

XPass S2: 2.4.4

■ BioStation 2: 1.9.0

■ BioStation A2: 1.8.0

■ BioStation L2: 1.6.0

■ BioEntry W2: 1.6.2

■ FaceStation 2: 1.4.0

CoreStation: 1.4.1

■ BioEntry P2: 1.4.0

■ BioEntry R2: 1.4.0

■ BioLite N2: 1.3.2

XPass D2: 1.3.1

XPass D2 (Rev 2): 1.4.2

FaceLite: 1.2.0

XPass 2: 1.2.2

- FaceStation F2: 1.0.2
- OM-120: 1.2.0
- Secure I/O 2: 1.3.0
- DM-20: 1.2.0

•	
•	
 •	가
 •	
•	
-	
-	

- BioLite Net: 2.3.5
- BioEntry Plus: 2.3.4
- BioEntry W: 2.3.4
- XPass: 2.4.4
- XPass S2: 2.4.4
- BioStation 2: 1.9.0
- BioStation A2: 1.8.0
- BioStation L2: 1.6.0
- BioEntry W2: 1.6.1
- FaceStation 2: 1.4.0
- CoreStation: 1.4.1
- BioEntry P2: 1.4.0
- BioEntry R2: 1.4.0
- BioLite N2: 1.3.2
- XPass D2: 1.3.1

XPass D2 (Rev 2): 1.4.2

FaceLite: 1.2.0

XPass 2: 1.2.2

■ FaceStation F2: 1.0.1

■ OM-120: 1.2.0

■ Secure I/O 2: 1.3.0

■ DM-20: 1.2.0

#### BioStar 2.8.8

<b>.</b> 1
■ New Local API
" CSV
•
•
•
• '

■ BioLite Net: 2.3.5

■ BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

■ XPass: 2.4.4

■ XPass S2: 2.4.4

■ BioStation 2: 1.9.0

■ BioStation A2: 1.7.1

■ BioStation L2: 1.6.0

■ BioEntry W2: 1.6.0

■ FaceStation 2: 1.4.0

CoreStation: 1.4.1

BioEntry P2: 1.4.0

■ BioEntry R2: 1.4.0

■ BioLite N2: 1.3.2

XPass D2: 1.3.1

XPass D2 (Rev 2): 1.4.2

FaceLite: 1.1.0

XPass 2: 1.2.2

FaceStation F2: 1.0.0

■ OM-120: 1.2.0

Secure I/O 2: 1.3.0

■ DM-20: 1.2.0

#### BioStar 2.8.6

■ FaceStation 2
<ul><li>FaceStation F2</li><li>BioEntry W2 (Rev 2)</li></ul>

■ BioLite Net: 2.3.5

BioEntry Plus: 2.3.4

BioEntry W: 2.3.4

XPass: 2.4.4

XPass S2: 2.4.4

BioStation 2: 1.8.0

BioStation A2: 1.7.1

BioStation L2: 1.6.0

■ BioEntry W2: 1.5.0

FaceStation 2: 1.3.1

CoreStation: 1.4.0

BioEntry P2: 1.4.0

BioEntry R2: 1.4.0

BioLite N2: 1.3.1

XPass D2: 1.3.1

XPass D2 (Rev 2): 1.4.1

■ FaceLite: 1.1.0

XPass 2: 1.2.1

■ OM-120: 1.2.0

Secure I/O 2: 1.3.0

■ DM-20: 1.2.0

#### BioStar 2.8.5

■ Wiegand
•

BioLite Net: 2.3.5

BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

■ XPass: 2.4.4

XPass S2: 2.4.4

BioStation 2: 1.8.0

BioStation A2: 1.7.1

■ BioStation L2: 1.6.0

BioEntry W2: 1.5.0

FaceStation 2: 1.3.1

CoreStation: 1.4.0

BioEntry P2: 1.4.0

BioEntry R2: 1.4.0

BioLite N2: 1.3.1

XPass D2: 1.3.1

XPass D2 (Rev 2): 1.4.1

■ FaceLite: 1.1.0

XPass 2: 1.2.1

■ OM-120: 1.2.0

Secure I/O 2: 1.3.0DM-20: 1.2.0

<ul> <li>New Local API</li> <li>Web-App, CGI server system.conf</li> <li>TLS V1.1</li> <li>Thrift</li> <li>Redis</li> </ul>
- CSV
•

BioLite Net: 2.3.5BioEntry Plus: 2.3.4

BioEntry W: 2.3.4

XPass: 2.4.4XPass S2: 2.4.4

BioStation 2: 1.8.0

BioStation A2: 1.7.1

BioStation L2: 1.5.1BioEntry W2: 1.5.0

FaceStation 2: 1.3.1

CoreStation: 1.4.0

BioEntry P2: 1.4.0

■ BioEntry R2: 1.4.0

BioLite N2: 1.3.1

XPass D2: 1.3.1

XPass D2 (Rev 2): 1.4.1

FaceLite: 1.1.0XPass 2: 1.2.1OM-120: 1.2.0

Secure I/O 2: 1.3.0

■ DM-20: 1.2.0

<ul><li>CoreStation</li><li>BioLite N2</li></ul>
•

.

■ BioLite Net: 2.3.5

BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

XPass: 2.4.4

XPass S2: 2.4.4

BioStation 2: 1.8.0

■ BioStation A2: 1.7.1

■ BioStation L2: 1.5.1

BioEntry W2: 1.4.1

FaceStation 2: 1.3.1

CoreStation: 1.4.0

BioEntry P2: 1.4.0

BioEntry R2: 1.4.0

BioLite N2: 1.3.0

XPass D2: 1.3.0

XPass D2 (Rev 2): 1.4.0

FaceLite: 1.1.0

XPass 2: 1.2.1

■ OM-120: 1.1.0

Secure I/O 2: 1.3.0

■ DM-20: 1.2.0

#### BioStar 2.8.2

■ LFI(Local File Inclusion)

■ BioLite Net: 2.3.5

BioEntry Plus: 2.3.4

BioEntry W: 2.3.4

■ XPass: 2.4.4

XPass S2: 2.4.4

BioStation 2: 1.8.0

BioStation A2: 1.7.1

BioStation L2: 1.5.1

BioEntry W2: 1.4.1

FaceStation 2: 1.3.1

CoreStation: 1.3.1

BioEntry P2: 1.3.1

BioEntry R2: 1.4.0

■ BioLite N2: 1.2.0

XPass D2: 1.3.0

XPass D2 (Rev 2): 1.4.0

• FaceLite: 1.1.0

XPass 2: 1.2.0

■ OM-120: 1.1.0

Secure I/O 2: 1.2.4

■ DM-20: 1.1.5

#### BioStar 2.8.1

• MS SQL	Server 2019			
•	ı	1 1	ı	

BioLite Net: 2.3.5

BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

XPass: 2.4.4

XPass S2: 2.4.4

■ BioStation 2: 1.8.0

■ BioStation A2: 1.7.1

BioStation L2: 1.5.1

BioEntry W2: 1.4.1

FaceStation 2: 1.3.1

CoreStation: 1.3.1

BioEntry P2: 1.3.1

BioEntry R2: 1.4.0

BioLite N2: 1.2.0

XPass D2: 1.3.0

XPass D2 (Rev 2): 1.4.0

■ FaceLite: 1.1.0

XPass 2: 1.2.0

■ OM-120: 1.1.0

Secure I/O 2: 1.2.4

■ DM-20: 1.1.5

#### BioStar 2.8.0

•	DB

■ BioLite Net: 2.3.5

■ BioEntry Plus: 2.3.4

BioEntry W: 2.3.4

XPass: 2.4.4

XPass S2: 2.4.4

BioStation 2: 1.8.0

BioStation A2: 1.7.1

BioStation L2: 1.5.1

BioEntry W2: 1.4.1

FaceStation 2: 1.3.0

CoreStation: 1.3.1

BioEntry P2: 1.3.1

■ BioEntry R2: 1.3.1

BioLite N2: 1.2.0

XPass D2: 1.2.0

XPass D2 (Rev 2): 1.4.0

FaceLite: 1.1.0

• XPass 2: 1.1.0

■ OM-120: 1.1.0

Secure I/O 2: 1.2.4

■ DM-20: 1.1.5

■ MS SQL		Windows Authentication
<ul><li>MS SQL Server 2017</li><li>BioStar 2 API</li></ul>	API	
■ XPass D2 (Rev 2)		

•

■ BioLite Net: 2.3.5

BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

XPass: 2.4.4

XPass S2: 2.4.4

■ BioStation 2: 1.8.0

■ BioStation A2: 1.7.1

■ BioStation L2: 1.5.1

BioEntry W2: 1.4.1

FaceStation 2: 1.3.0

CoreStation: 1.3.1

BioEntry P2: 1.3.1

BioEntry R2: 1.3.1

BioLite N2: 1.2.0

XPass D2: 1.2.0

• FaceLite: 1.1.0

XPass 2: 1.1.0OM-120: 1.1.0

Secure I/O 2: 1.2.4

■ DM-20: 1.1.5

#### BioStar 2.7.12

•
• ' '

■ BioLite Net: 2.3.5

BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

XPass: 2.4.4

XPass S2: 2.4.4

BioStation 2: 1.8.0

BioStation A2: 1.7.0

- BioStation L2: 1.5.1
- BioEntry W2: 1.4.1
- FaceStation 2: 1.3.0
- CoreStation: 1.3.1
- BioEntry P2: 1.3.1
- BioEntry R2: 1.3.1
- BioLite N2: 1.2.0
- XPass D2: 1.2.0
- FaceLite: 1.1.0
- XPass 2: 1.1.0
- OM-120: 1.1.0
- Secure I/O 2: 1.2.4
- DM-20: 1.1.5

• IP 7⊦
• ( )
■ ID,
• • ' ( )' 가

- BioLite Net: 2.3.5
- BioEntry Plus: 2.3.4
- BioEntry W: 2.3.4
- XPass: 2.4.4
- XPass S2: 2.4.4
- BioStation 2: 1.8.0
- BioStation A2: 1.7.0
- BioStation L2: 1.5.1
- BioEntry W2: 1.4.1
- FaceStation 2: 1.3.0
- CoreStation: 1.3.0
- BioEntry P2: 1.3.1
- BioEntry R2: 1.3.1
- BioLite N2: 1.2.0

XPass D2: 1.2.0
FaceLite: 1.1.0
XPass 2: 1.1.0
OM-120: 1.1.0
Secure I/O 2: 1.2.4

DM-20: 1.1.5

#### BioStar 2.7.10

<ul><li>FaceLite</li><li>XPass 2</li></ul>		
•	1	가
• USB	(BioMini, BioMini Plus, BioMini Plus 2)	
<ul><li>Setting.conf</li></ul>	가	

BioLite Net: 2.3.5
BioEntry Plus: 2.3.4
BioEntry W: 2.3.4
XPass: 2.4.4
XPass S2: 2.4.4

BioStation 2: 1.8.0BioStation A2: 1.7.0

BioStation L2: 1.5.0BioEntry W2: 1.4.0

FaceStation 2: 1.3.0

CoreStation: 1.3.0

BioEntry P2: 1.3.0

BioEntry R2: 1.3.0

BioLite N2: 1.2.0

XPass D2: 1.2.0FaceLite: 1.1.0

XPass 2: 1.0.1

■ OM-120: 1.1.0

Secure I/O 2: 1.2.4

■ DM-20: 1.1.5

#### BioStar 2.7.8

<ul><li>CoreStation</li></ul>
•
 ■ Wiegand
 •
• •

■ BioLite Net: 2.3.5

BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

■ XPass: 2.4.4

XPass S2: 2.4.4

■ BioStation 2: 1.7.1

BioStation A2: 1.6.0

BioStation L2: 1.5.0

■ BioEntry W2: 1.4.0

FaceStation 2: 1.2.1

CoreStation: 1.3.0

BioEntry P2: 1.3.0

■ BioEntry R2: 1.3.0

BioLite N2: 1.1.0

XPass D2: 1.2.0

FaceLite: 1.0.0

XPass 2: 1.0.0

■ OM-120: 1.1.0

Secure I/O 2: 1.2.4

■ DM-20: 1.1.4

•	
•	가
•	가

BioLite Net: 2.3.5BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

XPass: 2.4.4

XPass S2: 2.4.4

BioStation 2: 1.7.1

■ BioStation A2: 1.6.0

■ BioStation L2: 1.4.0

■ BioEntry W2: 1.3.0

FaceStation 2: 1.2.1

CoreStation: 1.2.0

BioEntry P2: 1.2.0

BioEntry R2: 1.2.0

BioLite N2: 1.1.0

XPass D2: 1.1.0

■ OM-120: 1.1.0

Secure I/O 2: 1.2.4

■ DM-20: 1.1.4

## BioStar 2.7.6

■ BioStar 1.x to BioStar 2.x Migration Tool 가
■ APB
• 가
FastCGI 9000

BioLite Net: 2.3.5BioEntry Plus: 2.3.4BioEntry W: 2.3.4

- XPass: 2.4.4
- XPass S2: 2.4.4
- BioStation 2: 1.7.1
- BioStation A2: 1.6.0
- BioStation L2: 1.4.0
- BioEntry W2: 1.3.0
- FaceStation 2: 1.2.1
- CoreStation: 1.2.0
- BioEntry P2: 1.2.0
- BioEntry R2: 1.2.0
- BioLite N2: 1.1.0
- XPass D2: 1.1.0
- OM-120: 1.1.0
- Secure I/O 2: 1.2.4
- DM-20: 1.1.4

### BioStar 2.7.5

• ,
<ul><li>RS-485</li><li>AoC</li><li>FaceStation 2</li></ul>
•
■ AoC
・ フト ・ setting.conf 9000 ・ AoC

- BioLite Net: 2.3.5
- BioEntry Plus: 2.3.4
- BioEntry W: 2.3.4
- XPass: 2.4.4
- XPass S2: 2.4.4
- BioStation 2: 1.7.1
- BioStation A2: 1.6.0
- BioStation L2: 1.4.0
- BioEntry W2: 1.3.0
- FaceStation 2: 1.2.1

CoreStation: 1.2.0

BioEntry P2: 1.2.0

BioEntry R2: 1.2.0

BioLite N2: 1.1.0

XPass D2: 1.1.0

■ OM-120: 1.1.0

Secure I/O 2: 1.2.4

■ DM-20: 1.1.4

#### BioStar 2.7.4

FaceStation 2 (FaceStation 2	1.2.2	)	
• ,	,	ID가	
·			

■ BioLite Net: 2.3.5

■ BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

XPass: 2.4.4

XPass S2: 2.4.4

BioStation 2: 1.7.1

■ BioStation A2: 1.6.0

■ BioStation L2: 1.4.0

BioEntry W2: 1.3.0

FaceStation 2: 1.2.1

CoreStation: 1.2.0

BioEntry P2: 1.2.0

■ BioEntry R2: 1.2.0

BioLite N2: 1.1.0

XPass D2: 1.1.0

■ OM-120: 1.1.0

Secure I/O 2: 1.2.4

■ DM-20: 1.1.4

### BioStar 2.7.3

•	가 가		
 •		가	
•			

■ BioLite Net: 2.3.5

BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

■ XPass: 2.4.4

XPass S2: 2.4.4

■ BioStation 2: 1.7.0

BioStation A2: 1.6.0

■ BioStation L2: 1.4.0

■ BioEntry W2: 1.3.0

FaceStation 2: 1.2.0

CoreStation: 1.2.0

BioEntry P2: 1.2.0

BioEntry R2: 1.2.0

BioLite N2: 1.1.0

XPass D2: 1.1.0

■ OM-120: 1.1.0

Secure I/O 2: 1.2.4

■ DM-20: 1.1.4

## BioStar 2.7.2

■ 24		
•	가	
:		가
•		

■ BioLite Net: 2.3.5

BioEntry Plus: 2.3.4

BioEntry W: 2.3.4

■ XPass: 2.4.4

XPass S2: 2.4.4

BioStation 2: 1.7.0

BioStation A2: 1.6.0

BioStation L2: 1.4.0

BioEntry W2: 1.3.0

FaceStation 2: 1.2.0

CoreStation: 1.2.0

BioEntry P2: 1.2.0

BioEntry R2: 1.2.0

■ BioLite N2: 1.1.0

XPass D2: 1.1.0

■ OM-120: 1.1.0

Secure I/O 2: 1.2.4

■ DM-20: 1.1.4

#### BioStar 2.7.1

■ OM-120	( 1	)	
•			
•			
•		가	

■ BioLite Net: 2.3.5

BioEntry Plus: 2.3.4

BioEntry W: 2.3.4

■ XPass: 2.4.4

XPass S2: 2.4.4

BioStation 2: 1.7.0

■ BioStation A2: 1.6.0

■ BioStation L2: 1.4.0

BioEntry W2: 1.3.0

■ FaceStation 2: 1.2.0

CoreStation: 1.2.0

BioEntry P2: 1.2.0

BioEntry R2: 1.2.0

■ BioLite N2: 1.1.0

XPass D2: 1.1.0

OM-120: 1.1.0Secure I/O 2: 1.2.4

■ DM-20: 1.1.4

## BioStar 2.7.0

, , ,
■ 가가
•
• CSV •
<ul><li>DESFire AES</li><li>DESFire</li></ul>

BioLite Net: 2.3.5

BioEntry Plus: 2.3.4

■ BioEntry W: 2.3.4

■ XPass: 2.4.4

XPass S2: 2.4.4

■ BioStation 2: 1.7.0

■ BioStation A2: 1.6.0

■ BioStation L2: 1.4.0

BioEntry W2: 1.3.0

■ FaceStation 2: 1.2.0

CoreStation: 1.2.0

■ BioEntry P2: 1.2.0

BioEntry R2: 1.2.0

■ BioLite N2: 1.1.0

XPass D2: 1.1.0

■ OM-120: 1.1.0

- Secure I/O 2: 1.2.4
- DM-20: 1.1.4

#### BioStar 2.6.4



■ BioLite Net: 2.3.5

BioEntry Plus: 2.3.4

BioEntry W: 2.3.4

XPass: 2.4.4

XPass S2: 2.4.4

BioStation 2: 1.6.2

BioStation A2: 1.5.1

BioStation L2: 1.3.2

BioEntry W2: 1.2.3

FaceStation 2: 1.1.1

CoreStation: 1.1.2

BioEntry P2: 1.1.2

BioEntry R2: 1.1.1

BioLite N2: 1.0.2

XPass D2: 1.0.2

■ OM-120: 1.0.0

Secure I/O 2: 1.2.1

■ DM-20: 1.1.2

#### BioStar 2.6.3



■ BioLite Net: 2.3.5

■ BioEntry Plus: 2.3.3

BioEntry W: 2.3.3

- XPass: 2.4.4
- XPass S2: 2.4.4
- BioStation 2: 1.6.1
- BioStation A2: 1.5.1
- BioStation L2: 1.3.1
- BioEntry W2: 1.2.1
- FaceStation 2: 1.1.1
- CoreStation: 1.1.1
- BioEntry P2: 1.1.1
- BioEntry R2: 1.1.0
- BioLite N2: 1.0.2
- XPass D2: 1.0.1
- OM-120: 1.0.0
- Secure I/O 2: 1.2.1
- DM-20: 1.1.2

#### BioStar 2.6.2

•	(USB)	Pt
•		
•	(USB)	가

- BioLite Net: 2.3.5
- BioEntry Plus: 2.3.3
- BioEntry W: 2.3.3
- XPass: 2.4.4
- XPass S2: 2.4.4
- BioStation 2: 1.6.1
- BioStation A2: 1.5.1
- BioStation L2: 1.3.1
- BioEntry W2: 1.2.1
- FaceStation 2: 1.1.1
- CoreStation: 1.1.1
- BioEntry P2: 1.1.1
- BioEntry R2: 1.1.0
- BioLite N2: 1.0.2
- XPass D2: 1.0.1
- OM-120: 1.0.0
- Secure I/O 2: 1.2.1

■ DM-20: 1.1.2

## BioStar 2.6.0

■ ID 가 ■ iCLASS Seos ■ 16 ■ Wiegand ■ AoC ■ Wiegand Legacy ■	
<ul> <li>BioLite N2</li> <li>XPass D2</li> <li>BioMini Plus 2</li> <li>(</li> <li>Wiegand In/Out</li> </ul>	)
T T	
• MS SQL	
■ 가	

■ BioLite Net: 2.3.3

BioEntry Plus: 2.3.3

■ BioEntry W: 2.3.3

■ XPass: 2.4.3

XPass S2: 2.4.3

■ BioStation 2: 1.6.0

■ BioStation A2: 1.5.0

■ BioStation L2: 1.3.0

BioEntry W2: 1.2.0

FaceStation 2: 1.1.0

CoreStation: 1.1.0

BioEntry P2: 1.1.0

BioEntry R2: 1.1.0

■ BioLite N2: 1.0.0

XPass D2: 1.0.0

■ OM-120: 1.0.0

Secure I/O 2: 1.2.1

■ DM-20: 1.1.2

## BioStar 2.5.0

<ul><li>https</li><li>Oracle</li></ul>	
<ul><li>CoreStation</li><li>BioEntry P2</li><li>BioEntry R2</li></ul>	
 •	(BioLite Net )
• ( )	
, ; • •	가
■ NVR (ACTi, Dahua, Hikvis ■ IP	sion)
• : •	가

■ BioLite Net: 2.3.3

■ BioEntry Plus: 2.3.3

■ BioEntry W: 2.3.3

■ XPass: 2.4.3

XPass S2: 2.4.3

■ BioStation 2: 1.5.0

■ BioStation A2: 1.4.0

BioStation L2: 1.2.3

■ BioEntry W2: 1.1.4

FaceStation 2: 1.0.3

CoreStation: 1.0.0

BioEntry P2: 1.0.0

BioEntry R2: 1.0.0

### BioStar 2.4.1

•	(NFC, BLE)		
■ FaceStation 2			
• UI/UX			
•			
•		가	
 •			가
•			

BioLite Net: 2.3.0
BioEntry Plus: 2.3.0
BioEntry W: 2.3.0
XPass: 2.4.1
XPass S2: 2.4.0
BioStation 2: 1.4.0
BioStation A2: 1.3.0
BioStation L2: 1.2.2
BioEntry W2: 1.1.2

■ FaceStation 2: 1.0.0

## BioStar 2.4.0

<ul><li>Oracle Database 11g, 12c</li></ul>
<ul> <li>OM-120</li> <li>USB (DUALI DE-620)</li> <li>BioStar 2</li> </ul>
■ PDF

•			
■ ID	(	/	)
■ dd/mm/yyyy			

BioLite Net: 2.3.0
BioEntry Plus: 2.3.0
BioEntry W: 2.3.0
XPass: 2.4.0
XPass S2: 2.4.0
BioStation 2: 1.4.0
BioStation A2: 1.3.0
BioStation L2: 1.2.2

BioEntry W2: 1.1.2

## BioStar 2.3.0

•			
■ CSV 가	1		
■ BioStation A2		(SIP )	
• 7	ŀ		
•			
<ul><li>Wiegand</li><li>Wiegand</li><li>BioStar 2</li></ul>	가 (	( 32 )	(.wav, .mp3)

BioLite Net: 2.3.0
BioEntry Plus: 2.3.0
BioEntry W: 2.3.0
XPass: 2.3.0
XPass S2: 2.3.0
BioStation 2: 1.3.0
BioStation A2: 1.2.0
BioStation L2: 1.1.0

BioEntry W2: 1.0.0

#### BioStar 2.2.2

BioEntry W2

BioLite Net: 2.2.3
BioEntry Plus: 2.2.3
BioEntry W: 2.2.3
XPass: 2.2.3
XPass S2: 2.2.3
BioStation 2: 1.3.0
BioStation A2: 1.1.0
BioStation L2: 1.0.0
BioEntry W2: 1.0.0

### BioStar 2.2.1

BioStation L2

•

•

•

■ 가

•

BioLite Net: 2.2.3BioEntry Plus: 2.2.3BioEntry W: 2.2.3VPass: 2.2.3

XPass: 2.2.3
XPass S2: 2.2.3
BioStation 2: 1.3.0
BioStation A2: 1.1.0
BioStation L2: 1.0.0

## BioStar 2.2.0

BioStation A2

•

BioLite Net: 2.2.3
BioEntry Plus: 2.2.3
BioEntry W: 2.2.3
XPass: 2.2.3
XPass S2: 2.2.3
BioStation 2: 1.2.0

BioStation A2: 1.0.0

## BioStar 2.1.0

BioStar 2 API

■ DM-20, Wiegand

• ,

•

BioStar 2

BioStar 2

•

BioLite Net: 2.0.4
BioEntry Plus: 2.0.4
BioEntry W: 2.0.4
XPass: 2.0.4
XPass S2: 2.0.4

BioStation 2: 1.0.1

### BioStar 2.0.1

BioStation 2

LAN

■ T&A

•

•

・ CSV クト

•

■ BioStar 2

BioLite Net: 2.0.0
BioEntry Plus: 2.0.0
BioEntry W: 2.0.0
XPass: 2.0.0
XPass S2: 2.0.0

BioStar 2

PC BioStar 2

BioStar 2

BioStar 2

BioStar 2 (https://www.supremainc.com)

BioStar 2

#### BioStar 2

		1~50	51~100	101~1,000		
(		Windows 7(SP1 ), Windows 8, Windows 8.1, Windows 10, Windows 11, Windows Server 2008 R2(SP2 ), Windows Server 2012, Windows Server 2012 R2, Windows Server 2016, Windows Server 2019, Windows Server 2022  • Mac OS Windows 7				
)		MariaDB 10.1.10, MS SQL Server 2012 SP3, MS SQL Server 201 SP2, MS SQL Server 2016 SP1, MS SQL Server 2017, MS SQL S 2019				
	CPU	2 GHz	4 GHz	4 GHz 16		

	RAM	8 GB	16 GB	32 GB
	SSD	512 GB	1 TB	1 TB
	CPU	1 GHz	1 GHz	1 GHz
	RAM	4 GB	4 GB	4 GB
(		Google 75	•	•
)		<b>🕏</b>		
		-	Google 9	23

#### **BioStar 2 Video Extension**

CPU	4 GHz	4 GHz
RAM	8 GB	16 GB
HDD	2 TB	4 TB



■ 64bit

BioStar 2 Google

■ 64bits MariaDB MS SQL

BioStar 2 Windows 7 Windows 7 Microsoft

Windows 8.1 Windows Server 2012 R2
 KB2919355 .

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 Server BioStar 27 PC BioStar 27 PC

Native Client .

https://www.microsoft.com/ko-kr/download/details.aspx?id=50402

Oracle Database

BioStar 2 32 64 .BioStar 2 PC

Ŷ

■ BioStar 2.9.2 32

■ BioStar 1 PC BioStar 2 . 가

BioStar 2.2.1 2.22 BioStar 2.3.0 SQLiteMariaDB .

■ BioStar 2 2.6.0 .BioStar 2.6.0

, 2.6.0 BioStar 2

2	2.2.1 > 2.3 > 2.4 > 2.4.1 > 2.5.0 > 2.6.4 >
2.2 2.2.1 2.2.2	2.3 > 2.4 > 2.4.1 > 2.5.0 > 2.6.4 >
2.3	2.4 > 2.4.1 > 2.5.0 > 2.6.4 >
2.4	2.4.1 > 2.5.0 > 2.6.4 >
2.5 2.6	2.6.4 >
2.6.4	

Windows 8.1 Windows Server 2012 R2
 KB2919355 .

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 Express
 https://www.microsoft.com/ko-kr/download/details.aspx?id=49996

•	MS SQL 2014	Express			2	
	https://www	.microsoft.com/k	o-kr/download/d	details.aspx?id=	<del>-</del> 53168	
•	MS SQL Serv	er BioStar 2가	PC		BioStar 2가	PC
	Native Client	t				
	https://www	.microsoft.com/k	o-kr/download/d	details.aspx?id=	50402	
	MS SQL Serv	rer er		Collation	CI (Case-inse	nsitive)
	В	ioStar 2				
	,AC	TA			TA	
	BioStar 2		\Program Fi	les\BioStar 2(x	64)\util er	nckey
	\Program Fil	es\BioStar 2(x64)	system.co	nf, setting.com	f	
		,	-			
	BioStar 2가					
	BioStar	2가				
	포트	·				
	• HTTP	Ψ <b>Ε</b> 80	사용 가능	• HTTPS 포트	443 🕜 사용가능	
	• 웹소켓	<b>∓⊑</b> 9002	사용 가능	• API <u>≖</u> 트	9010 사용가능	
			사용가능	• 근태 HTTP 포트	3000 사용가능	
	• 근태 H • FastC0		사용 가능 사용 가능	<ul> <li>근태 클라우드 포트</li> <li>통합 게이트웨이 HTTP 포트</li> </ul>	52001  사용가능	
	• 동합 거	이트웨이 HTTPS 포트 5002	사용 가능	• 리포트 HTTP 포트	4213 사용가능	
	• 리포트	HTTPS 포트 4214 ✔	사용 가능			
	h					
가			BioStar 2			i
	MariaDB					
	- m	y.cnf [	[mysqld]			
					•	
	character-set-server=utf8 collation-server=utf8_unicode_ci					
	m	ax_connections	= 600			
	• m	y.cnf [	[mysqld]		가 .	
		og_bin_trust_fu		s = 1		
	a	roup_concat_max				

Ŷ

■ root MariaDB

```
> GRANT SUPER ON . TO user_id@'%' IDENTIFIED BY "password"
MS SQL Server
                              Collation
        CI(case-insensitive)
     a) SQL Server
                                 SQLEXPRESS
        TCP/IP
     b)
                    SQL Server
     a) SQL Server Management Studio SQL Server sa
     b)
     c)
                                       SQL Server
     d)
     e)
     f)
     g)
                                         c)
                                   (MB) 3000
                 가 /
                            10MB
```

> GRANT SUPER ON . TO  $user\_id@$  'localhost' IDENTIFIED BY " ${\it F}$ 

**Windows Authentication** 

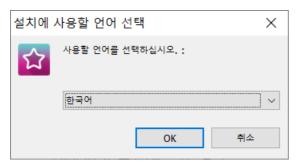
1.

Microsoft Windows Active Directory			Windows Authentication
a)	SQL Server Man	agement Studio	
b)			
c)	Windows		
d)			Active Directory
e)			>
f)			•
g)	sysadmin		•
h)			•
i)	ac, master, ta, v	<b>/e</b>	dbo .
j)		•	
2. Active	Directory	MS SQL Window	ws Authentication
a)	services.msc	MSSQL D	В >
b)	Windows	1433	· 가 .
•	MS SQL	ac, ta, ve	sysadmin
			-
d)	MS SQL	가 Window	s Authentication
	ac, ta, ve	sysa	dmin
e)		:	services.msc .
f)			
g)	MS SQL ODBC		
3.			
a)	SQL Server		SQL Native Client
h۱	TCD/ID		
•	TCP/IP SQL Server	c	DLEXPRESS
C)	201 201 AGI	3(	ZLLAT RESS
4)	TCD/ID ODB	)C 7L	

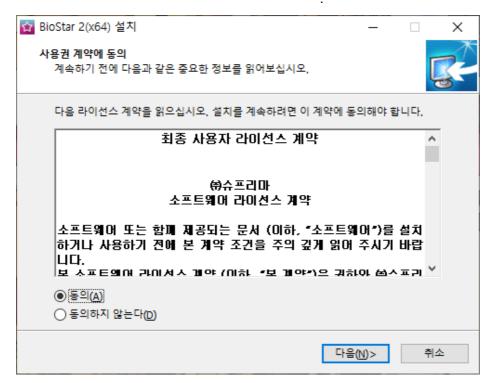
- e) SQL Server Management Studio
- f) > NT AUTHORITY\SYSTEM
- g)
- h) public, sysadmin
- i)
- j) ac, master, ta, ve

1) .(ex. 'BioStar 2 Setup.x.x.x.xxx.exe')

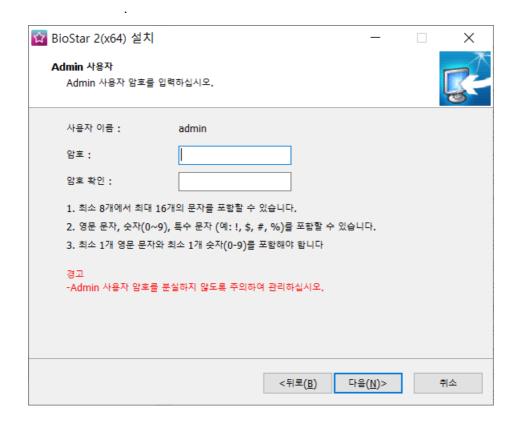
2) **OK** 



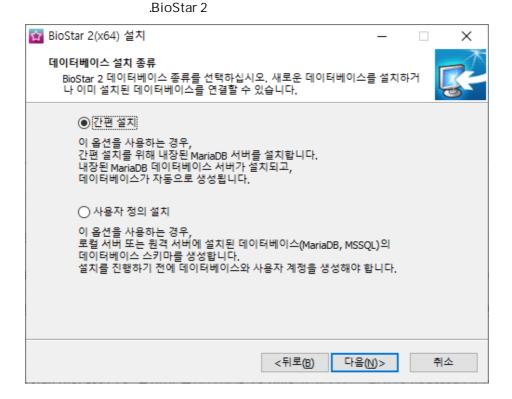
3)



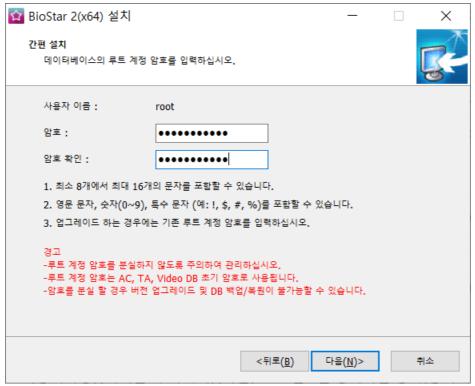
4) BioStar 2

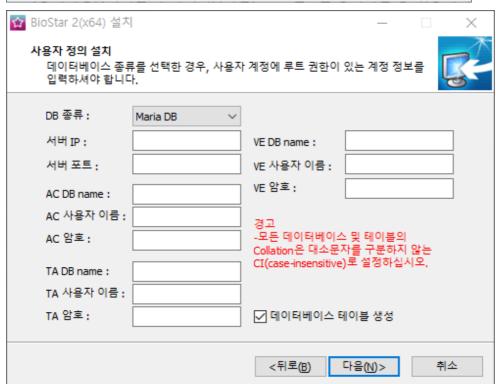


5) BioStar 2 . MariaDB . MariaDB



6)





### Ŷ

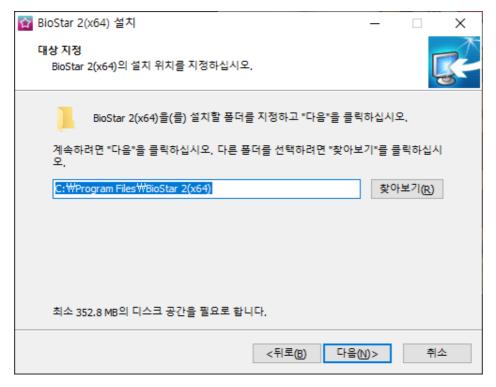
- BioStar 2가
  - MariaDB 10.1.10
  - MS SQL Server 2012 SP3
  - MS SQL Server 2014 SP2

- MS SQL Server 2016 SP1
- MS SQL Server 2017
- MS SQL Server 2019
- MS SQL Server C:

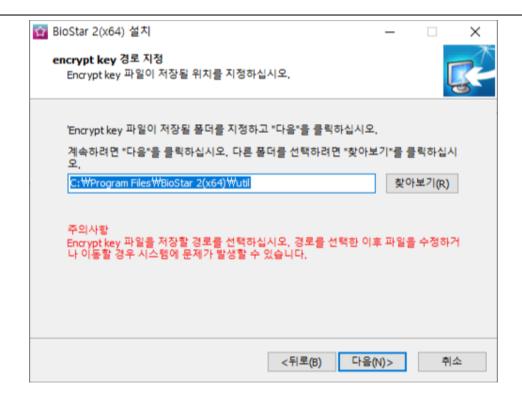
\Program Files\BioStar 2(x64)\dbscript\mssql

AC DB name, TA DB name, VE DB name

#### 7) BioStar 2



8)

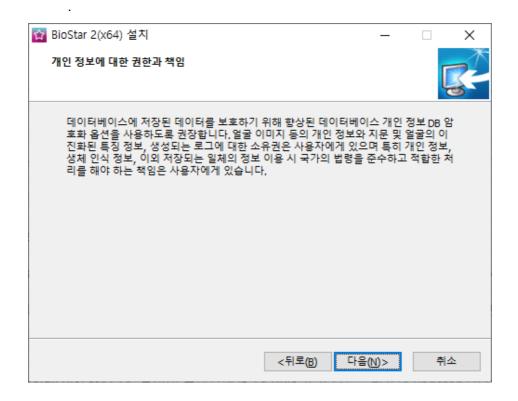


Ŷ

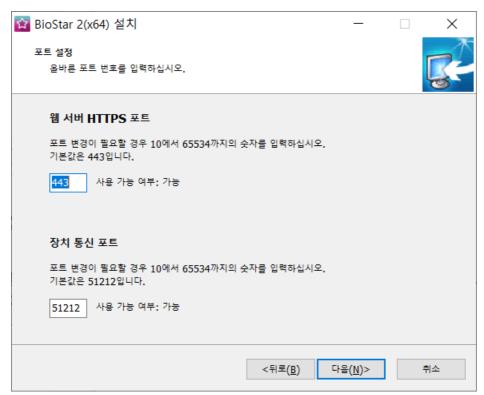
가

BioStar 2

9)



10) BioStar 2

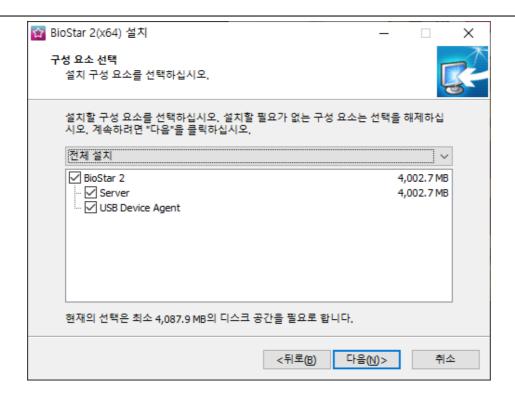


Ŷ

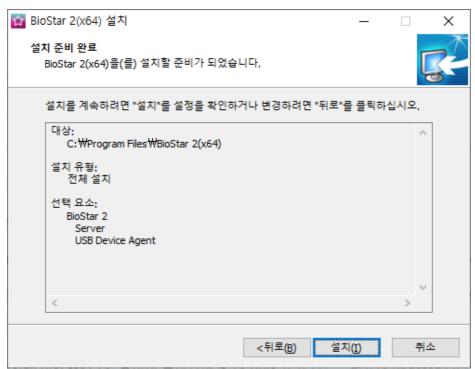
■ BioStar 1 BioStar 2 PC (51212)

BioStar 1 .

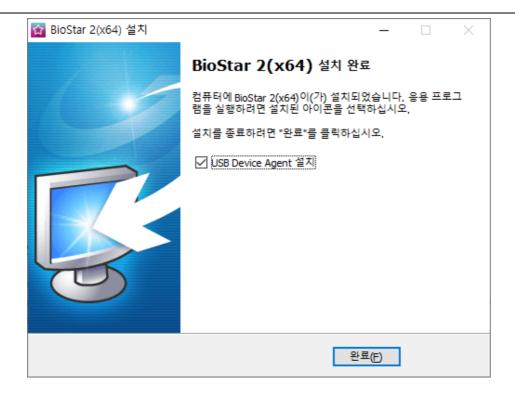
11) BioStar 2 .USB Device Agent BioMini,
BioMini Plus 2, DUALi DE-620 USB Agent 가 .



12) 가



13) 가 . . .



Ŷ

USB Device Agent

443 BioStar-Setting

BioStar 2

■ BioStar 2

BioStar 2

1)

**.** 75

2) BioStar 2

■ BioStar 2 PC https://127.0.0.1'

■ BioStar 2 PC https://BioStar 2 IP

'Localhost' BioStar 2



■ BioStar 2 443 .443

BioStar Setting'

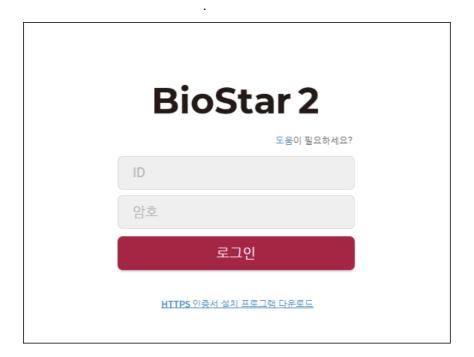
BioStar 2

3) . admin ,

가

▲ 안전하지 않음 | bttps://127.0.0.1/#/login

4) HTTPS BioStar 27\ PC IP .HTTPS



5) cert-register.exe .Enrollment Certification

6) BioStar 2가 PC IP **Enrollment** 

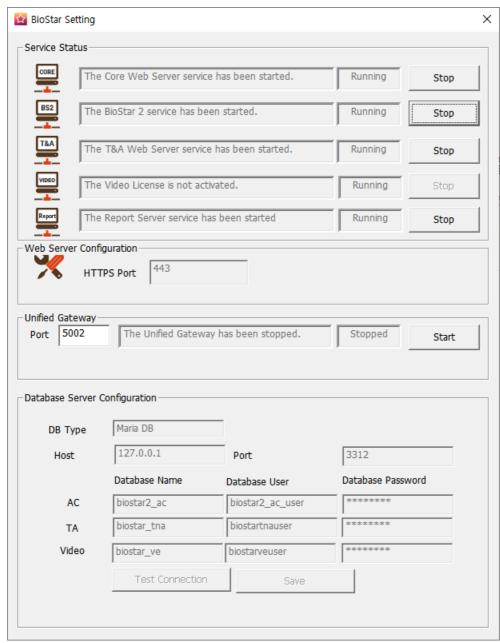


7) .



BioStar 2

1) BioStar 2 > BioStar Setting



2) Stop



3) Start



Ŷ

■ BioStar 2 Core Web Server

BioStar 2가

### BioStar 2

BioStar 27 443 BioStar Setting

Ŷ

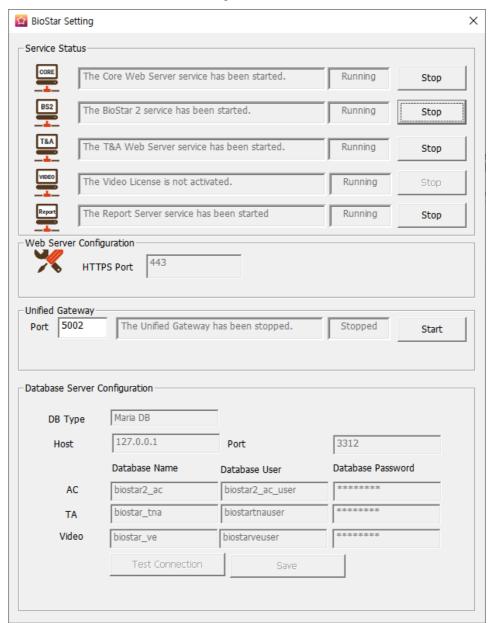
■ MS SQL BioStar 2

BioStar 2

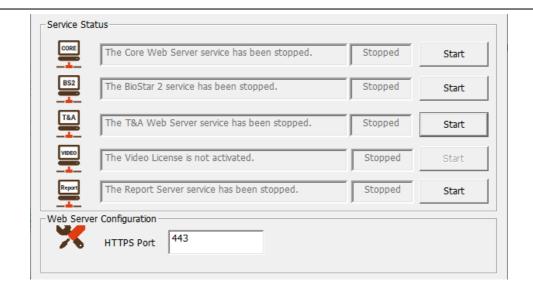
**BioStar Setting** 

(HTTPS)

1) # > BioStar 2 > BioStar Setting



- 2) BioStar 2 **Stop** .HTTPS Port가
- 3) HTTPS Port



- 4) BioStar 2 **Start**
- 5) BioStar 2 . 450' IP address: 450'



1) BioStar 2 .BioStar 2 가



2)

3)

BioStar 2 .

BioStar 2

iframe SSL .

Ş

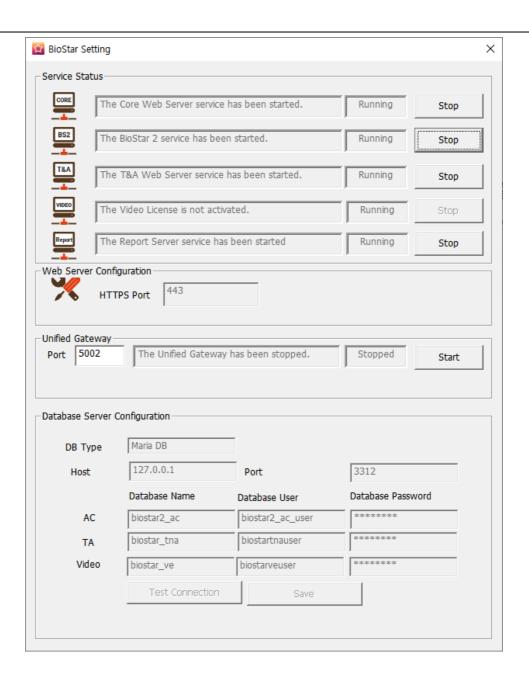
■ BioStar 2 ,

.

- **HTTPS** : 5002 - **HTTP** : 5000

**BioStar Setting** 

1) SioStar 2 > BioStar Setting



2) Unified Gateway Start . 가



• 가

■ 가

3) HTTPS HTTPS Port 가 5002 Unified
Gateway Port 443 .
Stop Unified Gateway

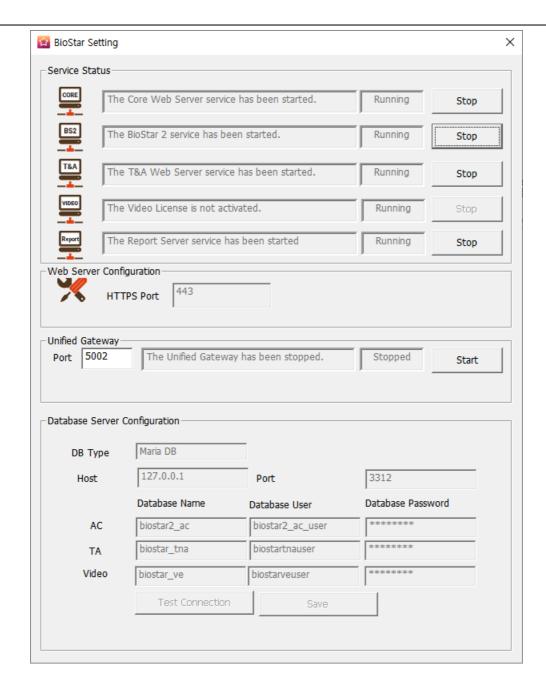




## BioStar 2

BioStar 2

1) BioStar 2 > BioStar Setting



2) BioStar 2 Stop Database Server Configuration

1

	Database Server C	Configuration ————————————————————————————————————						]	
	DB Type	Maria DB							
	Host	127.0.0.1	Port	3312					
		Database Name	Database User		Database Passwo	rd			
	AC	biostar2_ac	biostar2_ac_user		*******				
	TA	biostar_tna	biostartnauser		******				
	Video	biostar_ve	biostarveuser		******				
		Test Connection	1	Save	1				
3)			가						
4)	Test Connectio	n	가						
5)		Save							
D! - (	Ct 2								
	Star 2 Star 2				•			(	١
DIO.	olai Z		,		,		,	(	)
	BioStar 2	•							
1									
Bio	Star 2								

2 .

BioStar 2

 3
 .

 가
 .
 ,
 ,
 ,
 .
 .

 가
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .
 .</t

.

5 . ( , ) ,

.

6 .

69

4

4

BioStar 2가 PC . , BioStar 2 가

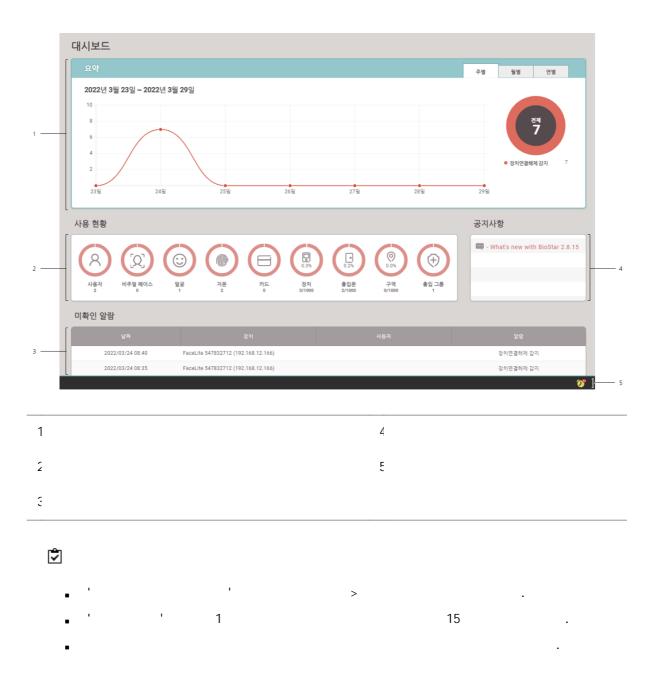
,BioStar .

7 .

.

8 .

, , , ,

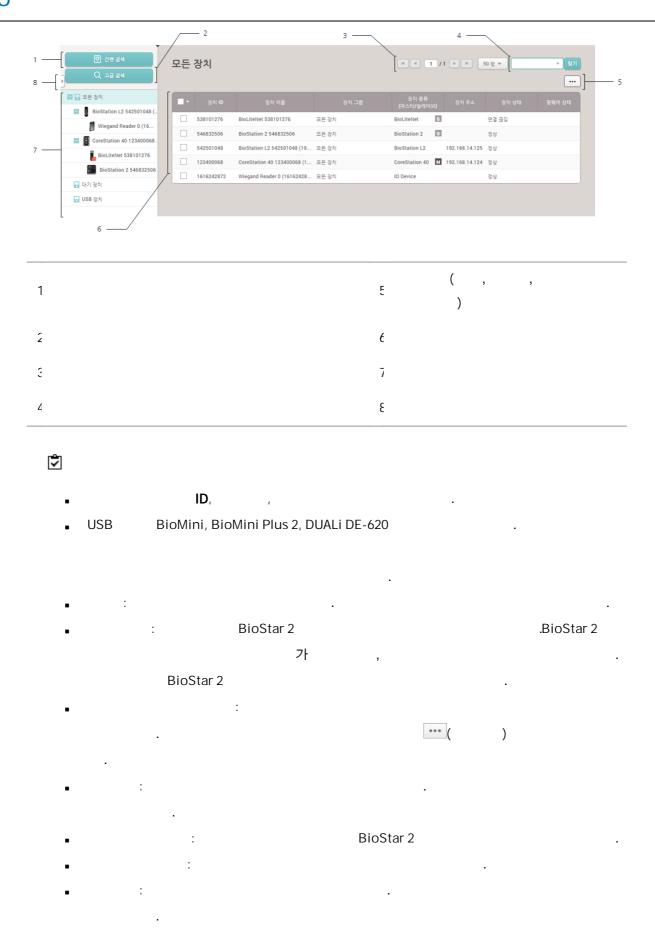




가/ / , 가 .

Wiegand

CoreStation OSDP



. 가 가 가 1) 2) 3)

Ŷ 8

48

가

1) 2)



3)

Ş 48 1) .

Ŷ

2)



• 가 .

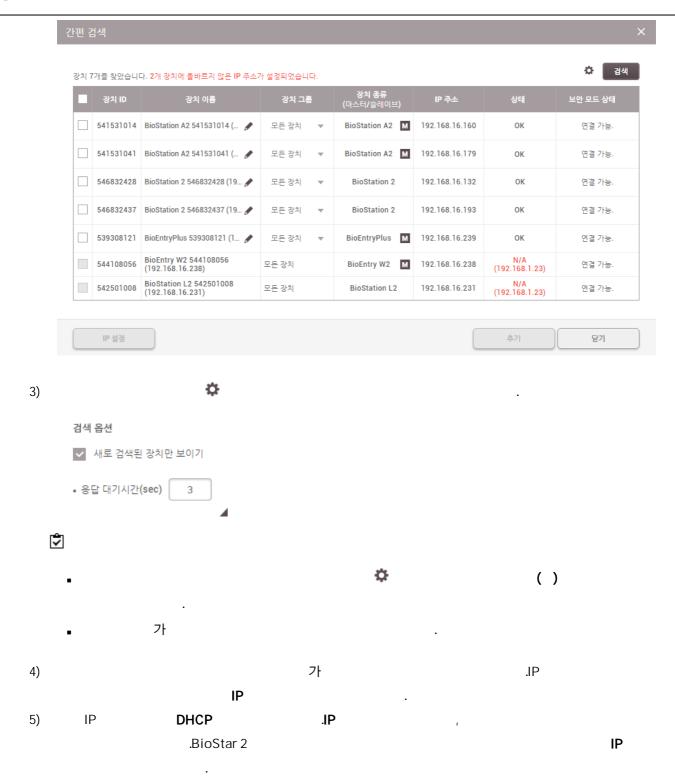
BioStar 2 . 가

. 가 ,ID, IP

1) > .

2) 가 ID 가 BioStar 2 ID가

BioStar 2 .





6) IP 가 7) 가 8) Ż 가 가 \*\*\* 가 가 ID 가 BioStar 2 ID BioStar 2 BioStar 2 ID 가

77

가

Wiegand

3)

ΙP 1) 2) ΙP 가 3) 장치 ID 538101276 BioLiteNet 538101276 (192.168.1... All Devices BioLiteNet 192.168.16.230 취소 가 4) 가 5) Ŷ Wiegand Wiegand 가 1) Wiegand Wiegand 2) /

가



4) **가** 

가 RS-485 , Secure I/O 2 가

1) .

2)

3) . 가



BioLiteNet 538101276 (192.168.16.230)은(는) 1 개의 슬레이브 장치를 가지고 있습니다.

추가 취소

4) **가** 

4)

가

Ş 가 가 가 가 가 가 가 1 가 가 Secure I/O 2 가 DM-20 1 CoreStation OSDP **OSDP** 가 CoreStation OSDP 1) 2) CoreStation OSDP 가 3) **OSDP** .OSDP CoreStation 40 542070022 (192.168.40.233) OSDP 리더 (1) OSDP 안테나 (i) 취소

가

가

OSDP



Ż

- CoreStation 2 , 8
- 5) (RS-485),





	CoreStation OSDP
	■ <b>OSDP ID</b> : OSDP .0~126
	. : CoreStation OSDP SCB
(RS-485)	CoreStation SCB OSDP  OSDP SCB  CoreStation  .
	■ : OSDP . PIN .
	<b>・</b> + 가
	가 + <b>가</b> .
	• : OSDP
	<b>■</b> : 7ŀ
	·

6) OSDP

Ŷ

• OSDP LED/
OSDP LED .

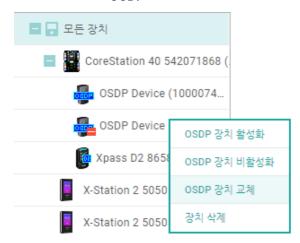
## OSDP

CoreStation OSDP

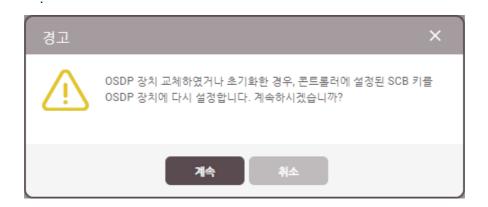
1)

2) CoreStation OSDP OSDP

## OSDP



3) .OSDP 가



Ŷ

• OSDP 가 SCB 가 가 . SCB

## **-** U&Z

CoreStation U&Z 가

Ş

■ U&Z 가

■ U&Z CoreStation v1.7.1 ,BioStar 2 v2.9.4

■ U&Z CoreStation

.

CoreStationU&Z8

D. O. O. II

■ BioStar 2 U&Z

1) .

2) CoreStation OSDP **7** 

3) OSDP .OSDP



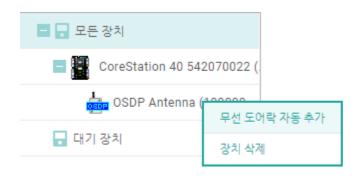
4) . 가 **가** OSDP 가 .



5) (**RS-485**)



6) 가 OSDP **가** 



7) SERVICEKEY U&Z

8) OSDP 가

U&Z

BioStar 2 BioStar

Ş

1) .

2) . 가 BioStar 2

장치의 사용자 관리 X

BioStation A2 541531008 (192.168.14.223)

 ● 모든 사용자
 정보가 다른 사용자
 업로드
 삭제

사용자 ID		•	1:1 보안 등급	상태
99	0	0	장치 기본값	새 사용자
50	0	0	장치 기본값	새 사용자
49	0	0	장치 기본값	새 사용자
48	0	0	장치 기본값	새 사용자
47	0	0	장치 기본값	새 사용자
46	0	0	장치 기본값	새 사용자
45	0	0	장치 기본값	새 사용자
44	0	0	장치 기본값	새 사용자

닫기

■ : BioStar 2

■ : BioStar 2

BioStar 2

3) "BioStar 2

. BioStar 2 ID가 가

Ŷ

•

■ BioStar 2

BioStar 2

.firmware 가

■ 32 : C:\Program Files\BioStar 2\firmware

■ 64 : C:\Program Files\BioStar 2(x64)\firmware

1)

2) .



3) 가

Ŷ

■ RS-485 가

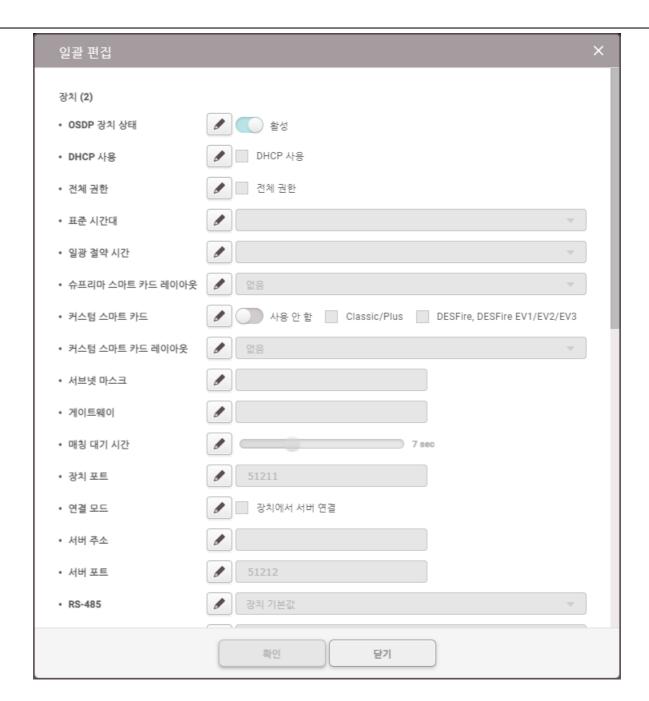
• 가

RS-485

1)
2)
3)
, PRTSP, DM-20, OM-120, IM-120,

4)

CoreStation, Wiegand



5)

6)

Ŷ

89

가

1)



1		·
2	ID	ID .
3		·
4		·
5		• : •
6		·
7		가 가
8		. 가
9		·
10		·
11		·

6

12		가
13		·
14		가 가
15	가	·
16		BioStar 2 .

2)

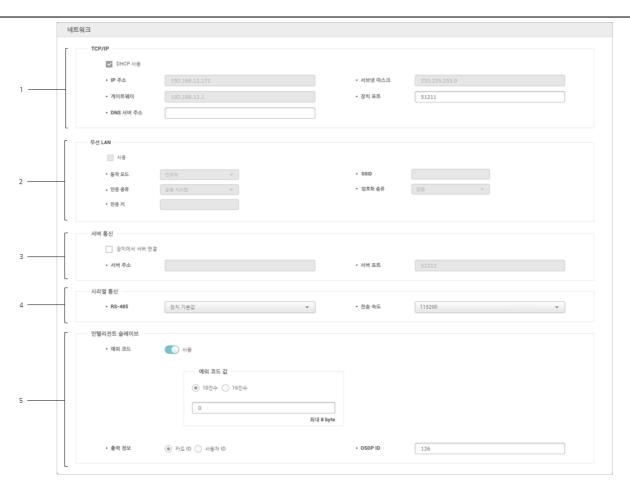
Ŷ

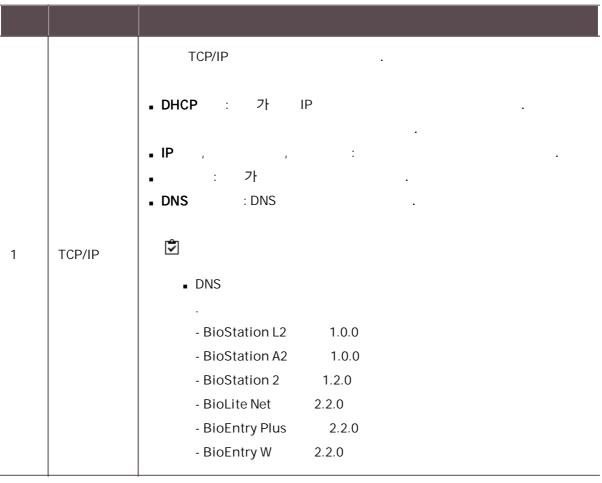
TCP/IP, RS-485

Ŷ

•

1)





		- XPass 2.2.0 - XPass S2 2.2.0 - FaceStation 2 1.0.0 - BioLite N2 1.0.0 - FaceLite 1.0.0 - XPass 2 1.0.0 - FaceStation F2 1.0.0 - X-Station 2 1.0.0 - BioStation 3 1.0.0
2	LAN	LAN . , SSID, , , 가
		·
3		■ : BioStar 2  BioStar 2  ■ : BioStar 2 IP  ■ : BioStar 2  □  - BioStation L2

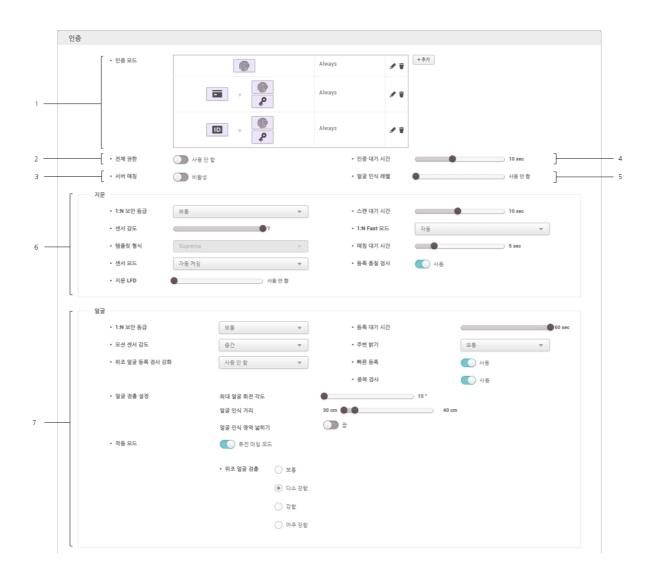
_		
	- BioLite Net 2.2.0	
	- BioEntry Plus 2.2.0	
	- BioEntry W 2.2.0	
	- XPass 2.2.0	
	- XPass S2 2.2.0	
	- XPass 2 1.0.0	
	- X-Station 2 1.0.0	
	- BioStation 3 1.0.0	
	RS-485 .	
4	■ <b>RS-485</b> : RS-485	
	: RS-485	
	71	
	가 OSDD 1.1 1.N	
	OSDP 1:1 1:N	
	•	
	10 16	
	.10 0~18446744073709551615	,16
	0~FFFFFFFFFFFF 16	
	. : ID ID	
	■ <b>OSDP ID</b> : OSDP .0~126	
_		
5	♥	
	■ RS-485	
	BioEntry W2 1.6.3	
	- BioStation L2 1.6.1	
	- BioEntry P2 1.4.1	
	- XPass 2 1.2.3	
	- X-Station 2 1.1.0	
	- BioLite N2 1.4.1	
	- FaceStation F2 1.1.2	
	- BioStation 3 1.0.0	

	•	8	

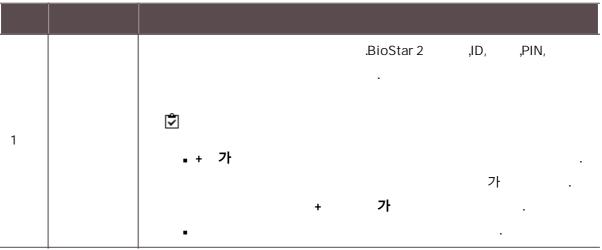
2)

Ŷ

1)







2				
		·	BioStar 2가	PC
			D103(a) 271	PC
		,		BioStar
		,		
		- CoreStation 1.0.0		
		- BioEntry P2 1.0.0		
		- BioEntry W2 1.0.0		
3		- BioStation L2 1.0.0		
		- BioStation A2 1.0.0		
		- BioStation 2 1.2.0		
		- BioLite Net 2.2.0		
		- BioEntry Plus 2.2.0		
		- BioEntry W 2.2.0		
		- XPass 2.2.0		
		- XPass S2 2.2.0		
		- BioLite N2 1.0.0		
		- XPass D2 1.0.0		
		- XPass 2 1.0.0 - FaceStation 2 1.4.0		
		- FaceStation F2 1.0.0		
		- X-Station 2 1.0.0		
		- BioStation 3 1.0.0		
		■ FaceLite .		
		FaceStation F2 BioStation 3		
		가		
4				
4				
		가		
5				
	1			

	, 가 가가 .
	₿ BioStation A2 X-Station 2 .
	■ BIOStationAZ A-StationZ .
	• 1:N : (FRR) (FAR)
	•
	■ 1:N Fast : 기
6	・ : 가 가 가 가 가
	• LFD:
	BioStation 2, BioStation A2, BioStation L2, BioLite N2, FaceStation F2(FSF2-ODB), X-Station 2(XS2-ODPB, XS2-OAPB)

	-	<b>LFD</b> BioStation A2, BioStation L2 N2, FaceStation F2(FSF2-ODB), X-Statio OAPB) .	
	■ 1:N	: (FRR)	(FAR)
		:	
	•	: IR LED :	
	•	. :	
7	•	가1 ,	3
	<b>-</b>	: : 가	
	- -	; , ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	
	-	: :	
	- •	;	가
	•	:	

		FaceStation 2, FaceLite FaceStation F2 1.1.0  FaceStation F2, BioStation 3
8	QR/	QR/ ■ QR/Barcode : QR/ ■ QR
9		·

	Ġ			
	-	가		
	■ <b>CSN</b> : C	SN		
	Î			
			(CS	N)
		,Wiegand		, 가
	Wiega		(CSN)	
	•	Wiegand		Wiegand
	_	. Wiegand		iegand
		. Wogana		i ogaria
		MSB		
	•	MOD		(CSN)
				.LSB
				(CSN)
				(0014)
	<ul><li>Wiegand</li></ul>	· Wiegand	Wiegand	
		. Wiegaria	Wiegaria	
	٠			
	څ			
	<u> </u>			
	•	Wiegand		. Wiegand
		Wiegand	•	
	•	:		
		/		
	Ż			
	•		MSB	
				,LSB

	. :
	/
	<b>□</b>
	•
	·
	- XPass D2 1.7.1 ■ <b>MSB</b>
	,LSB
	■ CSN :
	   ■ : 가
	<b>₽</b>
	•
	- BioStation 3 1.2.0
	■ ToM MSB
	,LSB
	- BioStation 3 1.2.0  ToM MSB

Ŷ

•

•

2) .

, / ,

1) .

2) , , , / , , Wiegand, , , , ,

3) .

**☼** 

**1**,000 . 가가

1) + 가

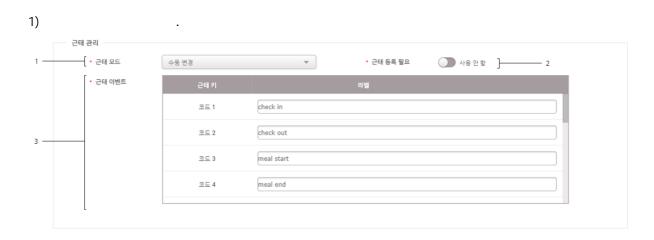
1	
2	, , ,RS-485
3	, , ,RS-485 ,

Ş

**W** 

가 .

BioStar 2



1	•	:			
	-	:	가		
	•	:		가	•

	■ : 가
	• :
2	. 가 ·
	가 .
3	• :

Ŷ

LCD

BioEntry P2, BioEntry W2, BioEntry Plus, BioEntry W, XPass, XPass S2, XPass D2, XPass 2 .

/

Ŷ

•

1)

BioEntry P2, BioEntry W2, BioLite Net, BioEntry Plus, BioEntry W, Xpass, Xpass S2, XPass D2,
 XPass 2



BioLite Net

XPass D2 V02M, 1.7.1

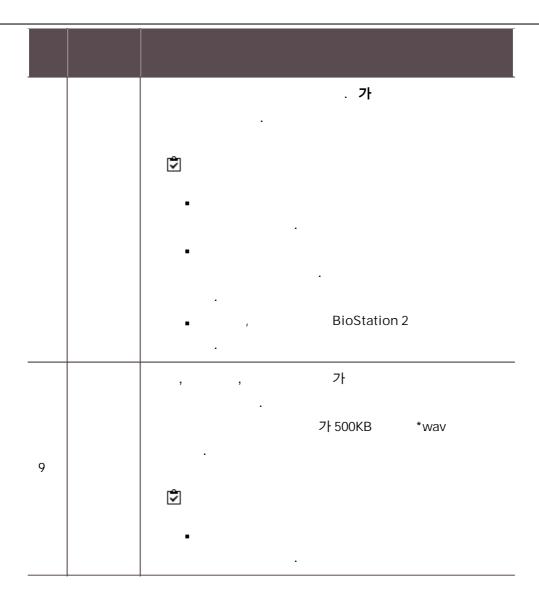


1		
2		·
3		
4		
5		가 .
6	LED	LED .
7		

### - BioStation 2, BioStation L2, BioLite N2, FaceLite



1	
2	·
3	
4	·
5	
6	가 .
7	·
8	■ : 가 . <b>가</b> ■ : 가 ■ : 가



#### ■ BioStation 3, BioStation A2, FaceStation 2, FaceStation F2, X-Station 2



1		
2		·
3	IP	IP .
4	IP	IP .
5		
6		·
7		가 .
8		LCD  FaceStation 2, FaceStation F2, X- Station 2, BioStation 3
9		
10		<ul> <li>・ : 가</li> <li>・ : 가</li> <li>・ : 가</li> </ul>

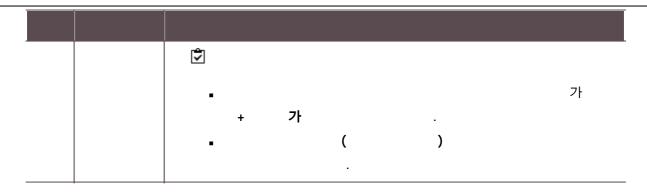
	•				
			•		
	•	10			
		. 가			
		•	가		
	,	,	71		
			가 500KB	*wav	
11					
	٥				
	•				

,RS-485 가

1) **+ 가** 



				가 .
	:			
		1 1	(ms),	
	,			(ma)
	- (	):	ı	(ms), ,
	)			
1	Ď			
	•			
		. (	)	
			+	가
		. (	)	·
				가 .
		가		
	•	64		
				가 .
2				



Ŷ

■ BioStation A2, FaceStation 2, FaceStation F2, X-Station 2, BioStation 3

1) . >

2) **+ 가** 



### Wiegand

Wiegand

1)



1				
2		Wiegand		.Wiegand
3	Wiegand Wiegand CSN		,	Wiegand Wiegand
4	Wiegand			
5	Wiegand			
6				

가 , , 가

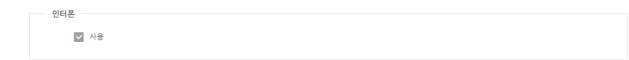
1) .

• 보안 템퍼 \* 보안 템퍼 발생 시, 장치의 전체 사용자, 전체 로그, 보안키가 삭제됩니다.

Ŷ

■ BioStation 2

1)



.

60Hz

50Hz

Ż

■ BioStation A2

1)



가

Ż

FaceStation 2, FaceStation F2

- TCM10-FS2
- TCM10-FSF2
- FaceStation F2, BioStation 3

1) 열화상 및 마스크 마스크 설정 • 마스크 검출 레벨 아주 강함 사용 (기준 온도 초곽 시 인증 거부) ▼ • 섭씨/화씨 선씨 (°C) 사용 ₩8 • 격외선 영상 표시 ₩ 사용 온도 보정값 (\*C) 격외선 방사율 다이내익 ROI 열화상 및 마스크 확인 방식 • 확인 방식

```
- : ( ) 7 ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . ( ) . (
```

	. 가 <b>Lo</b>	w H	ligh	
			.1 ~45	
	,Low High			
	:			•
	,			
	:			
	•			
	- ( ):		•	
	,	0.1		-
	0.1			
	- (cm):			•
	- ROI:		•	가
	- ROI X(%), ROI Y(%), F			ROI
		ROI( 가	)	.ROI
		71		
	٥			
	<ul><li>Low</li></ul>	High		
	- FaceStation 2 - FaceStation F2	1.4.2 1.0.2		
	- racestationir2	1.0.2		
		FaceStation 2	FaceStation F2	
	(cm)	100	100	
		0.98	0.98	-
	ROI X(%)	47	30	-
	ROI Y(%)	45	25	_
	ROI Width(%)	15	50	_

			FaceStation 2	FaceStation F2
		ROI Height(%)	10	55
		:		
3	•	:		
	•	:		

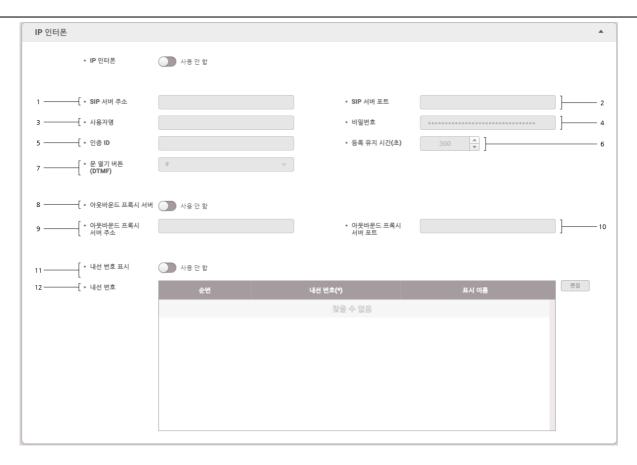
2) .

ΙP

IP .

Ŷ

- BioStation 3, FaceStation 2, BioStation A2
- •
- 1) IP
- 2) SIP 가



1	SIP	SIP .
2	SIP	SIP .
		SIP .
		<b>□</b>
3		
		, ( ), (+,-,@,.)
4		SIP .
		SIP ID .
		<b>□</b>
5	ID	
		■ ID , ( ), (+, -, @, .)
6	( )	SIP .

		■ 60~600 .
7	(DTMF)	
8		SIP 가 ( ) ,
9		·
10		·
11		<b>☆</b>
12		128  7



3)

## RTSP

RTSP

Ŷ

■ RTSP BioStation 3

## 1) RTSP

2)

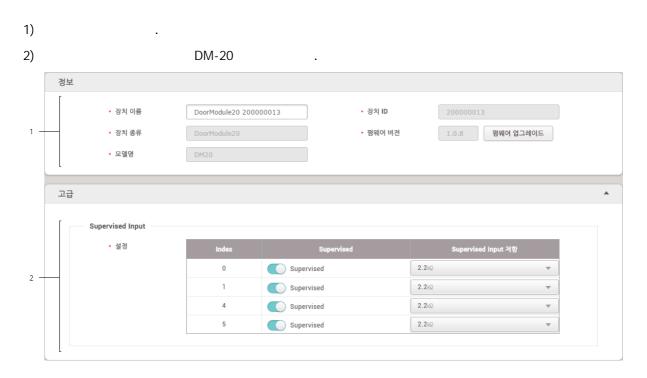


		RTSP .
1		■ : RTSP
2		RTSP .
3	ID	RTSP ID .
4		RTSP .

3)

# DM-20

DM-20



	·
1	■ <b>ID</b> : ID .
	•
	•
	Supervised Input .DM-20 Supervised Input
2	On, Off, , ,
	1kΩ ,2.2kΩ ,4.7kΩ ,10kΩ .

3)

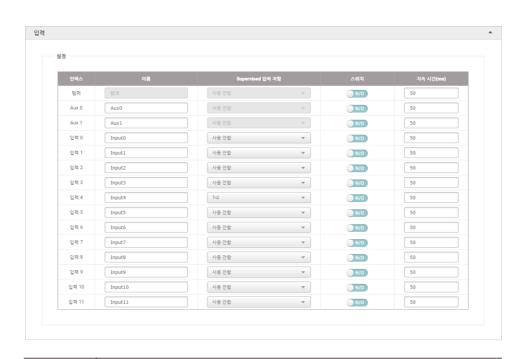
## OM-120

OM-120

1)

2)		OM-120			
정보					
	• 장치 이름	OM-120 12345678	• 장치 ID	12345678	
	<ul> <li>장치 종류</li> </ul>	OM-120	• 펌웨어 버전	1.0.0 출 펌웨어 업그리	레이드
	<ul> <li>모델명</li> </ul>	OutputModule	• 커널 버전	0.0.0	
	• 하드웨어 버전	0.0.0			
			•		
	•	: 	•		
		ID: ID	•		
	•	:			
	-	:			
		:			
	-	:			
	.	:			
3) I-120		·			
IM-120	BioStar 2				
BioStar 2	2 IM-120	)	·		
1)		•			
2)		IM-120			
3)					
_					
	244				
	정보	DE THE 120 122455722	• 경치 ID		
	• 장치	이용 IM-120 123456789 중류 IM-120		1.23456789 1.0.0 [2021/09/3 한 평웨어 업그레이드	

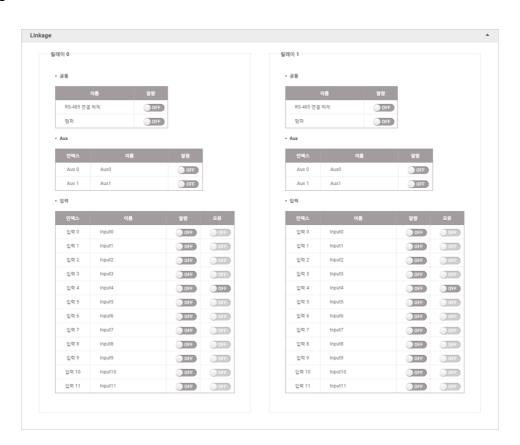
ID: ID
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
:
<



Supervised TTL 1kΩ,
2.2kΩ, 4.7kΩ, 10kΩ

• N/O N/C
• (ms):
50~65535

## Linkage



Linkage 1 . 0

- RS-485

- :
- AUX: AUX

AUX

Supervised

supervised

4)

### CoreStation

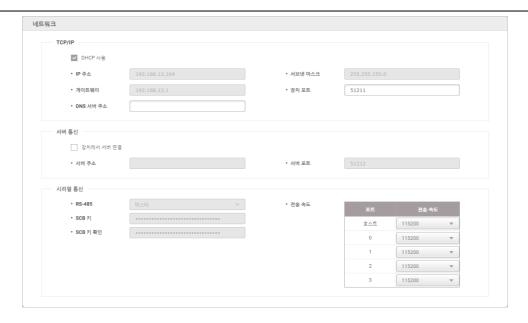
#### CoreStation

1)

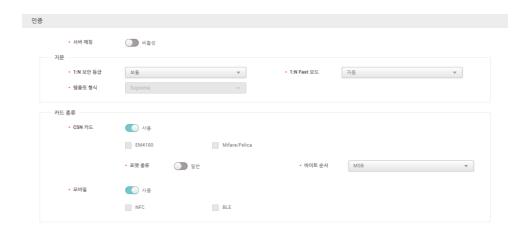
2) CoreStation



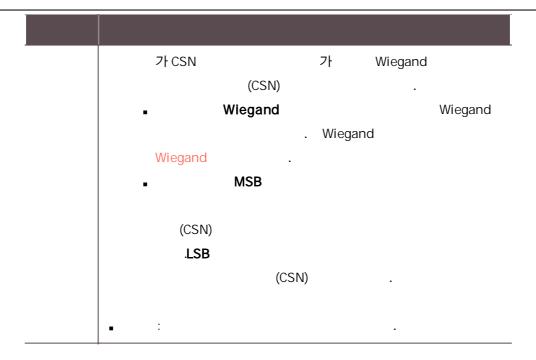
■ <b>ID</b> : ID .
. :
·
,
BioStar 2 .
■ : 가
. 가
■ : 가
■ : 가
:
· : <b>iii</b>
· : · · · · · · · · · · · · · · · · · ·
. 21 2r
· • 가 :
BioStar 2
. DIUSTAI Z

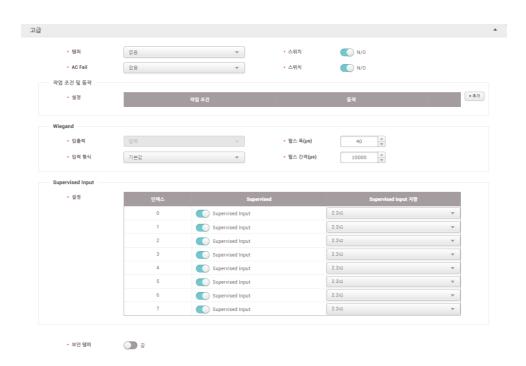


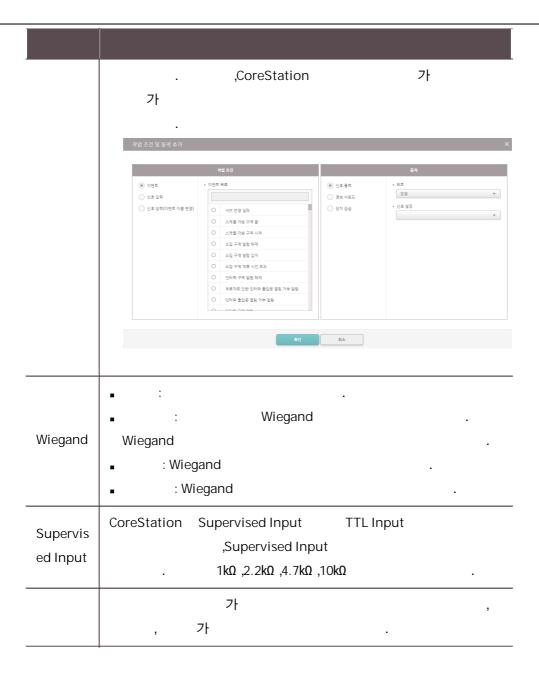
	■ DHCP : 가 IP  IP  IP  IP  DUCP
TCP/IP	.DHCP
	・ : 가 . BioStar 2
	DNS : DNS
	BioStar 2
	. BioStar 2
	BioStar 2 IP . : BioStar 2
	■ RS-485:
	RS-485 .
	■ SCB : SCB
	■ SCB : SCB
	CoreStation RS-485 가 .
	■ SCB 16 .



:	BioStar 2가 PC
BioStar 2	,
 . 1:N :	
	(FRR)
(FAR) ■ 1:N Fast :	
	가 .
 :	·
<b>2</b>	
•	가 .
- CSN : CSN	
•	
<b>3</b>	
•	(CSN) , <b>Wiegand</b>
	, <b>3</b>







#### - OSDP LED



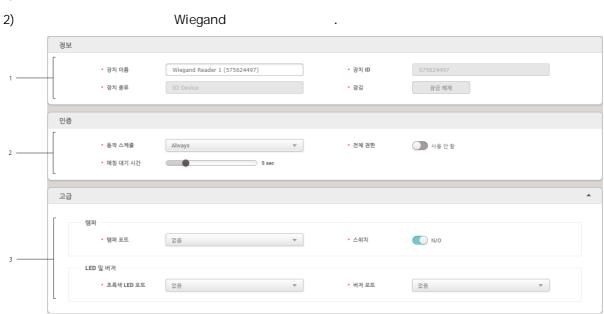
	CoreStation	OSDP	LED
OSDP LED	Ĉ CoreStation	・ OSDP 가LED	
	, ,	LED	•
LED	・ : , , , , , , , , , , , , , , , , , ,	LED가	
	• : , , , , , , , , , , , , , , , , , ,	가	
	<b>•</b> 가	가	

4) .

Wiegand

Wiegand .

1)



	Wiegand .
1	
	■ <b>ID</b> : ID .
	Wiegand .
2	■ : 가 ■ : Wiegand
	Wiegand LED .
3	■ : Wiegand 가 ■ : ■ LED : LED :

3)

# U&Z

.

1) .

2) .



	. :		
1	. :		CoreStation
	м :	CSN	
2	♪ •+ 가 가	가	<b>+</b>
	• :	CoreStation .	

3)

가

가



1	가	Ę
2		$\epsilon$
3		7
4	( , )	

• :

.

**-** 가

1) .

가

2) **가** 



3) .

Ŷ

■ 8 ■ 48

1) .

2)



3)

Ŷ

■ 48 .

1) .

2)



Ŷ

•

가

. /

,

- 1) **가**
- 3) .

. ,



1	·
2	. 가
3	·

2) .



1	가 ,		, Wiegand
	₽ •	U&Z	U&Z
2	<b>₽</b>	U&Z	

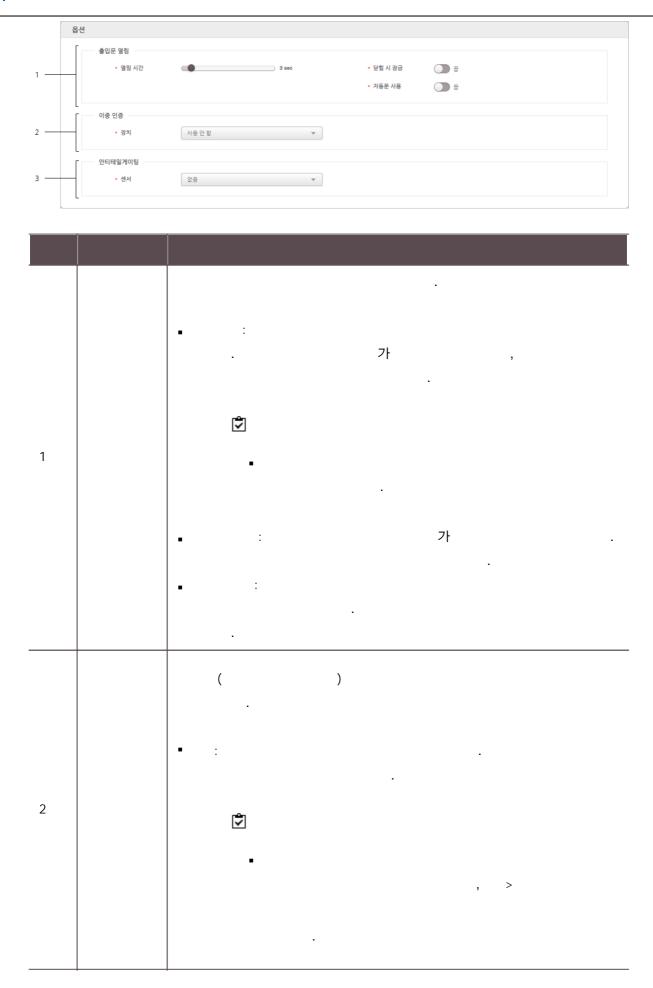
3		<b>N/C</b> :	N/O		·					
4	•	N/C APB	N/O		:	Al	PB			
5	Wiegand •	가	,	ı	가				가	ı

2) .

Ş

CoreStation

가 .



·
• : + 가
• :
가 가
■ 기 ■

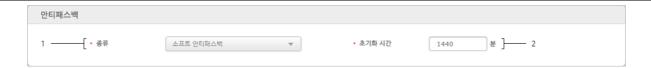
2) .

. 가 가 가 . 가

**☼** 

■ RS-485 가

1) .



1	BioStar 2		가	
	BioStar 2		•	
2				. 7
۷	(10080 )	,0		

2) .



1	+ 가 ·		·	·	
2					
3	+ 가 ·			·	
4	+ 가 ·				
	-	가			

2)

- 1) .
- 2) .
- 3) 가 . . .
- 4)



- 4) 🖋 .
- 5) .

## OM-120

가





1	가	Ę
2		$\epsilon$
3		7
4	( , )	

\_

가

**-** 가

1) .

2) **가** 



3) .

Ŷ

. 8

**.** 48

1) .

2)



3)

Ż

■ 48 .

1) .



Ŷ

• 가 .

가

1) **가** 

2) , , , ,

3) .

• •

1) .



1	·
2	. 가 ·
3	

Ż

BioEntry Plus, BioEntry W, BioLite Net

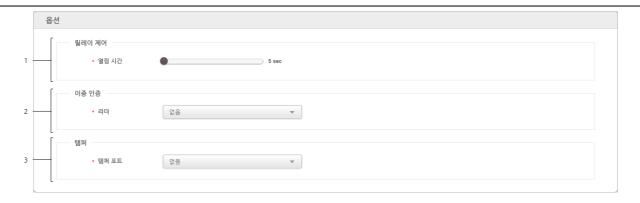
1) 상세 정보 --[• 컨트롤러 BioStation A2 541531008 (192.168.16.2... ▼ BioStation A2 541531008 (192.168.16.2... ▼ • 리더 OM-120 12345678 적용 ▼ 자동매핑 }----- 5 - 총 층수 • 자동 매핑 • 흥 설정 Elevator 1 - 1 OM-120 12345678 OM-120 12345678 장치의 릴레이 0 ▼ Elevator 1 - 2 OM-120 12345678 OM-120 12345678 장치의 릴레이 1 Elevator 1 - 3 OM-120 12345678 OM-120 12345678 장치의 릴레이 2 OM-120 12345678 OM-120 12345678 강치의 릴레이 3 Elevator 1 - 4 OM-120 12345678 Elevator 1 - 5 OM-120 12345678 강치의 릴레이 4 Elevator 1 - 6 OM-120 12345678 OM-120 12345678 장치의 릴레이 5 W Elevator 1 - 7 OM-120 12345678 OM-120 12345678 장치의 릴레이 6 ŵ Elevator 1 - 8 OM-120 12345678 OM-120 12345678 장치의 릴레이 7 Elevator 1 - 9 OM-120 12345678 OM-120 12345678 장치의 릴레이 8 ▼ Ŵ Elevator 1 - 10 OM-120 12345678 OM-120 12345678 장치의 릴레이 9 Ŵ Elevator 1 - 11 OM-120 12345678 OM-120 12345678 장치의 릴레이 10 ▼ Elevator 1 - 12 OM-120 12345678 OM-120 12345678 장치의 릴레이 11 ▼  $\widehat{\overline{w}}$ 

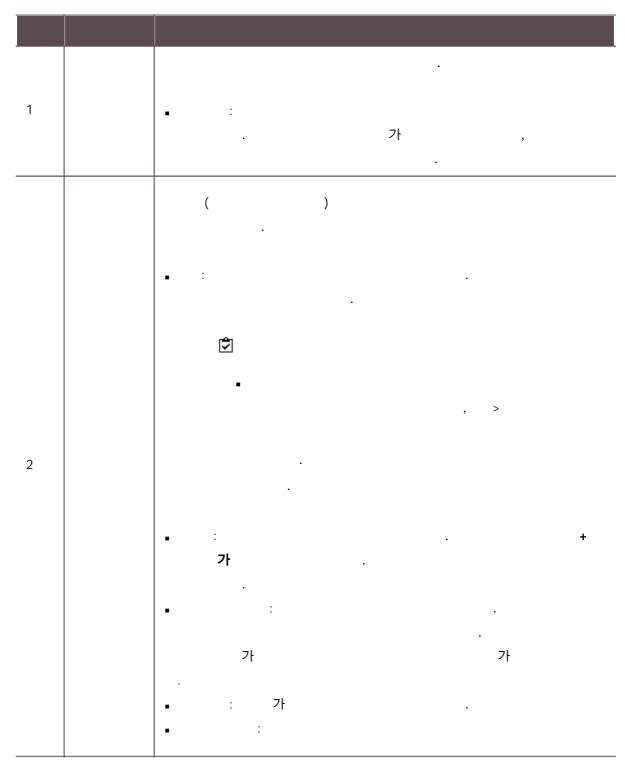
1	© • • , 가
2	<ul><li>♥</li><li>, ,Wiegand</li><li>4</li><li>OM-120</li></ul>
3	☑ OM-120, DM-20, IM-120, SIO2
4	<b>₽</b> 192
5	
6	·

2) .

가 .

1) .





	·
	·
3	

2)

1) . **+ 가** .



1	
2	

2) .

1)

2) .

4)

6) .

Ŷ 가 🕂 출입 그룹 추가 출입 그룹 ----9 --- 출입그룹 출입등급 충등급 상태 \_\_\_\_ AG 1F ~ 6F 1F ~ 6F AL 1 1F~6F access \_\_\_ AG AII AL 1 All All access ▲ AG AII ☐ AG 7F ~ 11F AL 1 7F ~ 11F 7F~11F access ▲ AG 7F ~ 11F AG 12F AL 1 12F 12F access ▲ AG 12F 가 , ) 1 6 ( 2 가 7 3 가 3 ç 1 Ę (

가 가 가 가 1) 2) 3) 가 4) 출입문 1 Ş Q 가 가 가 128 가 가 5) 1) 2) 3)

1) > .

2) .

3) .

**-** 가

1) > **가** .

2) .

3) **+ 가** .

4) • , , , .

• 이름

• 설명

 • 출입 규칙

 출입 등급

 + 추가

 충 등급

사용자 그룹 +추가 사용자 +추가

Ŷ

·

• + 가 .

• **章** 가 . .

4) .

1) > .

2) .

3) .

1) > .

2) .

3)

•

· 가

Ş

**-** 가

1) > 가 .

2) .

3) **+ 가** .

4) • . .

• 성명

열린베이터 총이름 스커울

Elevator 1 ▼ Elevator 1 - 1 + ⑤ ▼ Always ▼ 합

Ş

• 가 가 가 가 .

**.** ♥ 가 .

5) .

1) > .

2) .

3)

\_

1) > .

2)

3) .

가 .

,CSV .

•

1) > .

- .

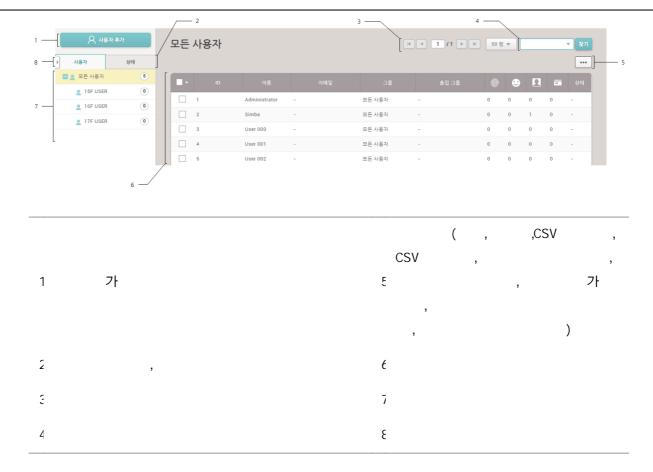
3) **Y** . .



1		
2		■ H ■ 2 /2 ■ ▶ ■ H ■ 25 rows ▼
3	(CSV	CSV .
4		·

BioStar 2

,PIN



Ŷ

• ·

•

: BioStar 2

■ : BioStar 2 .

. 가 가 .

- 가

2)

가



3)

Ŷ

848

1)

2)



3)

Ŷ

**4**8

1)

2)



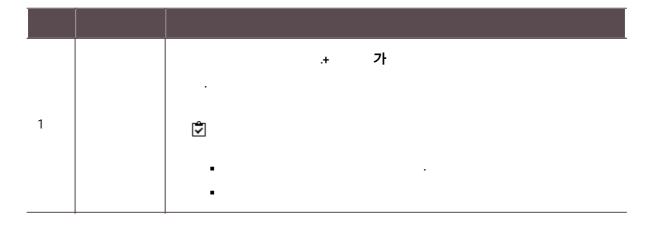
1) > **가** 

Ŷ

2) .

.





2 (-, !, @, #, \$, %, ^, &, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, [, (.), -, _, =, +, -, [, (.), -, _, =, +, -, ]]]  4 ID  5 BioStar 2  • : : : : : : : : : : : : : : : : : :	
4 ID (3)) 48  7†  10  10  10  11  10  10  10  10  10  1	+, [, ],
3  . ( _) 64  ID  ID  1-42949  . > ID  . ID	
■	
4 ID	
4 ID 1-42949  ID 1-42949  ID 5  BioStar 2	
5	294967294
BioStar 2 .	
7   * :	, 가

		■ ::  BloStar 2.5.0 BioStar 2.6.0
8	ID	BioStar 2 ID .  □ ID .
9		BioStar 2
10		• , QR
11		• ( <u>,</u> ) 64
12		

		<b>☆</b>	
		,	
13			
14			
		IP . IP PC IP 가 ·	IP
15	IP	■ IP xxx.xxx.xxx	0~255
			PC IP
16		가	

3)

څ

• 가 가

CSV

CSV , CSV .

CSV .

Ŷ

■ BioStar 2 가 가 CSV 가

. 가 .

■ 가 CSV UTF-8 .

- csv

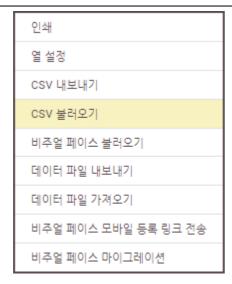
1) CSV ····

2) **CSV** .

인쇄
열 설정
CSV 내보내기
CSV 블러오기
비주얼 페이스 불러오기
데이터 파일 내보내기
데이터 파일 가져오기
비주얼 페이스 모바일 등록 링크 전송
비주얼 페이스 마이그레이션

3) CSV .

- csv

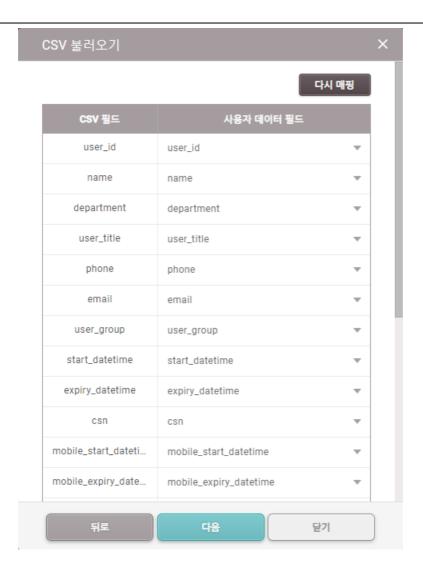


BioStar 2

가

163

4) CSV



5) BioStar 2 ID가 CSV

Ż

CSV

가 Airfob Portal

・ CSV BioStar 2 ,

가 .

■ CSV BioStar 2 가 가

, 가 .

CSV

mobile_start_datetime mobile_expiry_datetime						
	<ul><li>BioStar 2</li><li>CSV</li></ul>	QR CSV				
	CSV		PIN			PIN
	6) CSV	가	가	가	CSV	
	<b>Ď</b>					
	• CS\	ı,	가	BioStar 2		
		V	71	BIOStal 2		
	가					
	(USB)		BioStar 2	가		. 500,000
ı <del>ŝ</del> ı						
✓.				Pio	Star 2	
-				ыо	oldi Z	
•	BioStar 2.8.10			BioStar 2		
	Di-Ct2					
	BioStar 2					
	- BioStation 2	1.9.0				
	- BioStation A2	1.8.0				
	- FaceStation 2	1.4.0				
	<ul><li>- FaceStation F2</li><li>- X-Station 2</li></ul>	2.0.0				
		. = . 5				

- BioStation 3 1.0.0 가 ,Suprema ISO 가 FaceStation F2 가 가 BioStar 2 가 가 ••• 1) 2) 인쇄 열 설정 CSV 내보내기 CSV 불러오기 비주얼 페이스 불러오기 데이터 파일 내보내기 데이터 파일 가져오기 비주얼 페이스 모바일 등록 링크 전송

.USB

비주얼 페이스 마이그레이션

3)

166

데이터 파일 내보내기	×
내보낸 데이터 파일이 적용될 장치 종류를 선택하십시오. (기본: BioStation 2)	
BioStation 2 (v1.9.0 이상 적용 가능)	
○ BioStation A2 (v1.8.0 이상 적용 가능)	
FaceStation 2 (v1.4.0 이상 적용 가능)	
FaceStation F2 (v2.0.0 이상 적용 가능)	
X-Station 2 (v1.0.0 이상 적용 가능)	
○ BioStation 3 (v1.0.0 이상 적용 가능)	
○ BioStation 2a (v1.0.0 이상 적용 가능)	
확인 취소	

Ŷ

•

.

**-** 가

1) --- 가

PIN,

PIN

QR/ 1:1

PIN

1) **PIN** 

PIN

	인쇄	
	열 설정	
	CSV 내보내기	
	CSV 불러오기	
	비주얼 페이스 불러의	27
	데이터 파일 내보내기	7
	데이터 파일 가져오기	7
	비주얼 페이스 모바일	일 등록 링크 전송
	비주얼 페이스 마이그	그레이션
2)	(*.tgz)	
3)		가
,	,	
	PI	Ν .
PIN	••••	

2) **PIN** .

3) .

- csv

CSV PIN .

1) CSV **pin** 가 .

2) **pin** PIN .

3) CSV PIN 가 CSV BioStar 2

Ŷ

■ PIN CSV , PIN

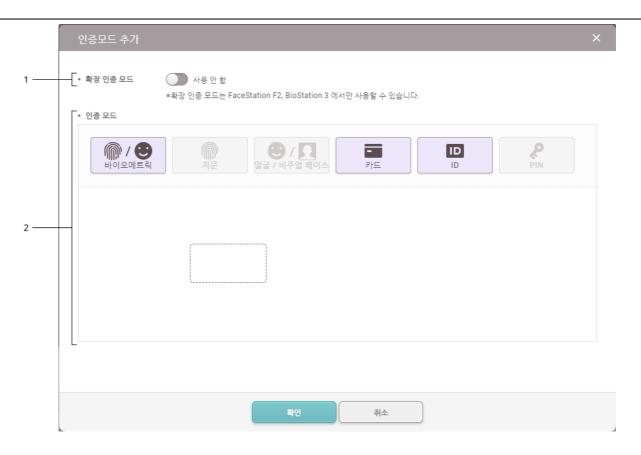
CSV .

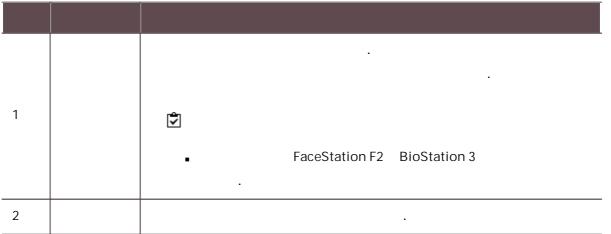
•

.

1) .

2) **+ 가** .





Ş

BioStar 2

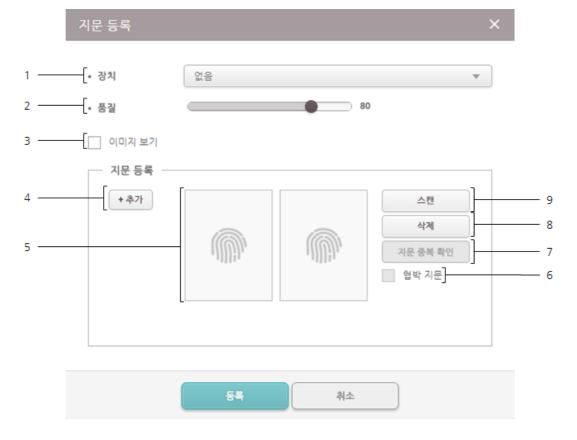
BioStar 2



Ŷ

・ 가・ 가

1) +



1	·
2	·

	가 .
3	·
4	가 <b>+ 가</b> . 10 가
5	
6	. 가 BioStar 2
7	·
8	·
9	가 .

3) 1:1

Ŷ

•

■ BioStar

•

• . (FRR)

• 가





Ŷ

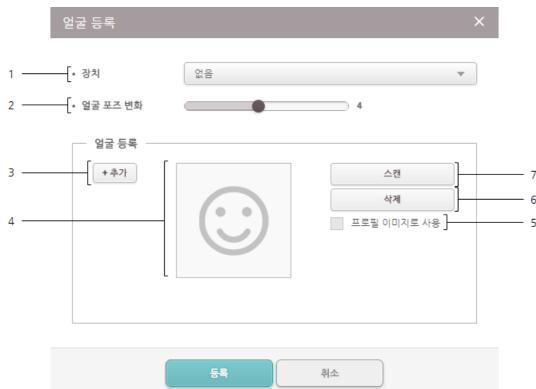
**40~80cm** .

.( , , )

· ·

■ 가 .

1) + .



1	·
2	, ,
3	가 <b>+ 가</b> . 5 가
4	
5	·
6	·
7	·

3) 1:1 .

**2** 

.1:1 (FRR)

·

**Ď** 

FaceStation F2, BioStation 3

.

- 60 ~ 100 cm .

-

•

- .

- , , . . .

- .

- .

- .

- 가 .

-

FaceStation F2, BioStation 3

1) + .



1	·
2	가 <b>+ 가</b> . 2 가 .
3	

4		
5	<b>₽</b>	10MB . JPG, JPEG, PNG
6		
7		

2) .

## CSV

CSV .

- 1) .
- 2) .
- 3) CSV CSV .
- 4) CSV (face\_image\_file1, face\_image\_file2)
- 5) CSV 가 CSV BioStar 2

6) 가



Ŷ

CSV

■ 10MB

JPG, JPEG, PNG

7) CSV .CSV 가

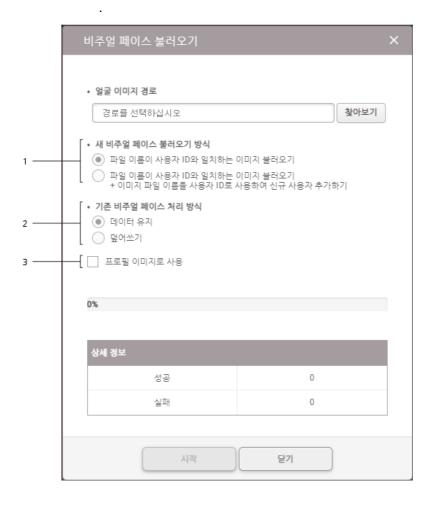
가 가 CSV

ID 가

1)



2) 가



	BioStar 2	<b>ID</b> ID	:
1	■ : BioStar 2	ID ID	+ 가
	, Disettal 2	, ID	
2	• :		

10

3				
3)				가
	가	가		

Ŷ

■ 10MB

■ JPG, JPEG, PNG

ID 1

.

1) ....



2)

가 , 가 가 .

Ż

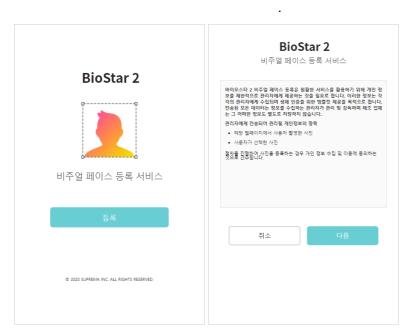
■ SMTP

•

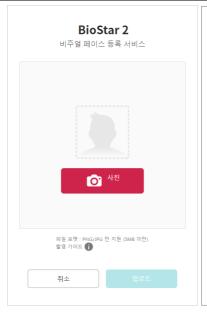
• 가 , 가

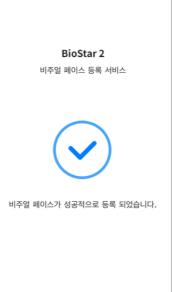
가

. 가 가 .









■ 10MB

JPG, JPEG, PNG

24

가

가 ,

가

CSN Wiegand

## [USB Agent

]

	CSN	Wiegand	
EM	X	X	X
MIFARE	0	Х	0

	CSN	Wiegand	
DESFire	0	X	0
FeliCa	0	Х	Х
HID Prox	Х	Х	Х
HID iCLASS	Х	Х	Х

CSN

가 CSN

1) + .

2) **CSN** 



3) .

BioStar 2

- a) .
- b) .
- c) .

BioStar 2 a) b) a) b) ID 4) Wiegand 가 Wiegand 1) +

2)

Wiegand

	카드 등록				×
	315 33	Wienend			
	• 카드 종류	Wiegand			•
	• 카드 데이터 형식	26 bit SIA Standar	d-H10301		<b>*</b>
	• 등록 방법	리더로 등록			▼
	* 장치	BioStation A2 541	531061 (192.168.16.206	5)	•
	정보				
	• 식별 코드			카드 읽기	
	• 카드 ID 1				
		등록	취소		
2)				Wiegand	
<ul><li>3)</li><li>4)</li></ul>				Wiegand	
•,		•			
	_				
	BioStar 2				
	a)				
	b)		·	가	,
		가	CSN		
	c)			·	
	_				
	_				
	BioStar 2				
	a)			•	
	b)				
	ٿ				
			가		

a) .

b) **ID** .

5) 가 .

,

**☼** 

/

1) + .



10

6) .

7) 가 .

Ŷ

■ BioStar 2 Mobile

■ ID .

■ BioStar 2 . ,

가 . ,

가 .

1

·

1) + .



2)

4) .

5) .

6)

Airfob Portal CSV Airfob Portal Ŷ Airfob Portal CSN Mobile CSN Mobile CSN Ŷ Airfob Portal 1) + 2) **CSN Mobile** 3) BioStar 2 CSN Mobile a)



b)

c)

Ŷ

- , ,

ID ID CSN Mobile

a)



c) .

☑IDID

• , ,

•

4)

Ŷ

・ 가 . 'Airfob Portal

종류	카드 데이터 형식	요약	
CSN Mobile	모바일 카드	ID: 1231231244123	재전송 차단 🛡

BioStar 2

,Airfob Portal

Ş

- BioStation 3 1.2.0

Airfob Portal

■ CSN Mobile 가

1) +

2)



4)

Ż

.

Airfob Pass

5) Ş QR/ QR/ Ŷ QR/Barcode - X-Station 2 (XS2-QDPB, XS2-QAPB) QR/Barcode - X-Station 2 (XS2-ODPB, XS2-OAPB, XS2-DPB, XS2-APB) 1.2.0 - BioStation 3 (BS3-DB, BS3-APWB) 가 QR/Barcode 1) + **QR/** QR/ 2) BioStar 2 QR BioStar 2 PIN QR

QR

BioStar 2 QR

SMTP

Ŷ

194

■ BioStar 2 QR 가

a) QR/ BioStar 2 QR



b) ID . **ID** ID

ID ID

QR/

BioStar 2가 QR/

a) QR/ QR/



b) .

c) QR/ ID

Ş

■ ID , , 32

3) QR/ .

1:1

**1:1** 1:N

1:N 가 1:1

1) 1:1 .

Ŷ

• (FRR)

.

Ŷ

• > >

1) .

종류	카드 데이터 형식	छक	
비주얼 페이스	-	1	동기화 🥖 🗑

BioStar 2 .

## 자용자 (3) • 경치 목록 Q □ 로든 장치 □ 로든 장치 □ 로든 장치 □ 로든 장치 □ 로든 사용자 덮어쓰기 전송 취소 2) 3) Q 4)

BioStar 2



- 1)
- 2) , ,
- 3)

	일괄 편집		×
	사용자 (27)      고룹      상태      기간      출입 그룹      권한 등급		7
4) 5)		확인 취소	
	■ 'Administrator'	, , , , , , , , , , , , , , , , , , ,	
1) 2) 3) 4)	· •	. 1 ~6 .	
S	<b>.</b>	가	

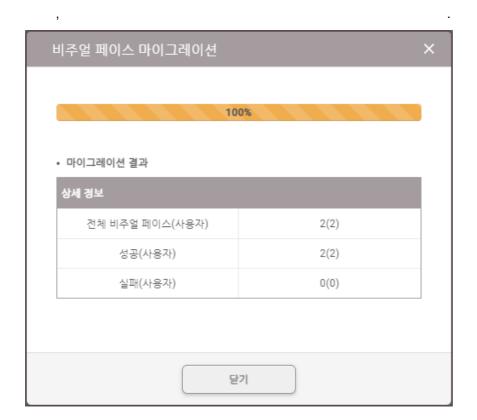
1)

2) \*\*\*



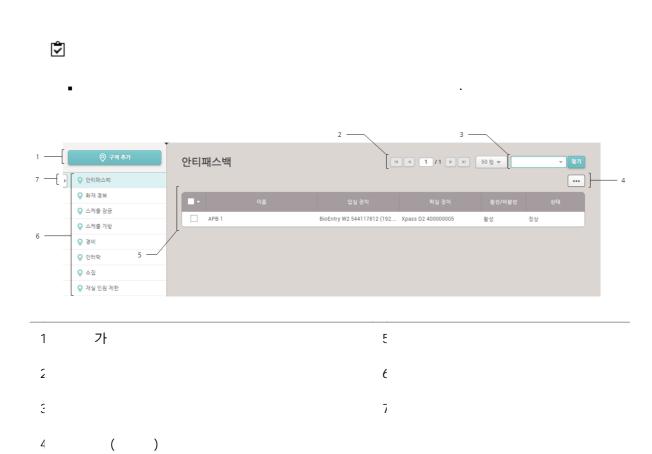
3)

4) BioStar 2



5) , CSV

,



1) > 가

2) 정보 • 이름 APB 1 • 종류 설정 활성 글로벌 소프트 안티패스백 출입문 설정에 따름 출입 기반 APB FaceLite 547832712 (192.168.14.240) • 입실 장치 BioStation 2 546832506 (192.168.14.221) • 퇴실 장치 • 네트워크 오류 동작 인증시 문 열림 알람 • 동작 안티패스백 항시 통과 • 항시 통과 그룹 사용안함 ▼ 1 RS-485 BioStar 2 2 가 7 (10080 ) .0 APB: APB 가 APB

11

		·		
	:			
	,	가	ı	ı
	Wiegand	,		
	,	가	ı	,
	Wiegand	,		
	•	: BioStar 2		
		•		
	•	APB		
	•		ADD	
		,	APB	
		,	•	•
3				
4				•

3)

•

1) > 가 .



1	
	· :
	·
	RS-485
	, BioStar 2
	• / :
2	. ( )
۷	•
	■ / :+ 가
	_
	•
3	가 .

3)

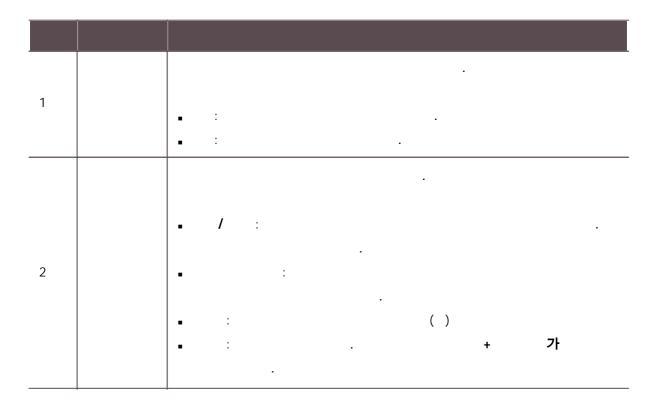
Ŷ

스케줄 잠금 항시 통과

• 항시 통과 그룹

가 1) > 2) 정보 • 이름 • 종류 스케줄 잠금 설정 활성/비활성 활성 활성 • 출입문 잠금 종류 퇴실 허용 • 출입문 Always • 동작

사용 안 함 ▼



	<b>♣</b>
3	·
4	

3)

Ŷ

1) > 가

2)



1	

	• :
2	• / : • / : • / : • / : • / : • :
3	가 .

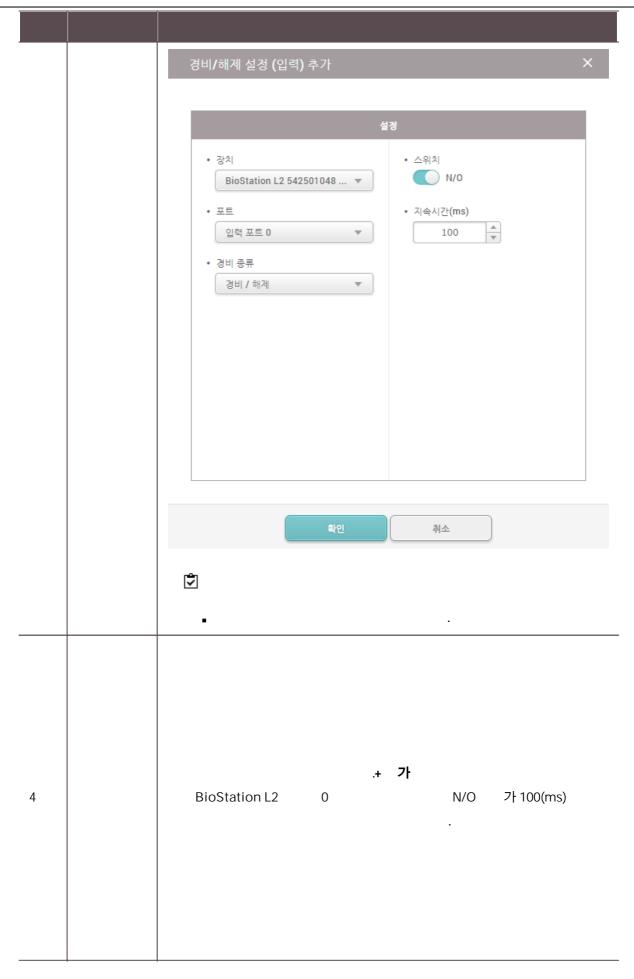
3) .

가 가 .

1) > 가 .

2) 설정 로컬 14F Door 01 • 출입문 0 소 초 체제 0 소 초 없음 3 -침입감지 설정 • 침입감지 1 2 RS-485 : 가 가 3 가 / 128 / / 128

• / : / / .+ 가 . / 가
, , .LCD
경비/해제 설정 (장치) 추가 X
• 장치 BioStation L2 542501048 (192.168.14.125) ▼ • 경비 종류
경비 / 해제 ▼  • 입력 종류  카드 또는 키 ▼
취소
/ 가





3)

가

Ŷ

4 .

CoreStation

.

•

1) > **가** 

2) .

3) .



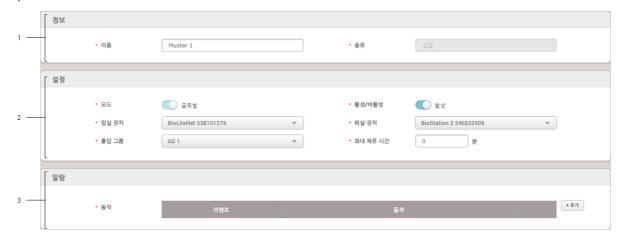
	·
1	
	<u>.</u>
	· .
2	CoreStation RS-485
	- /
	. 2

		,	가	가	
		가			
3	Ż				
	•			•	
			가		
4	ٿ				

4) .

가 가

- 1) > **가**
- 2) .
- 3) .



1	

11

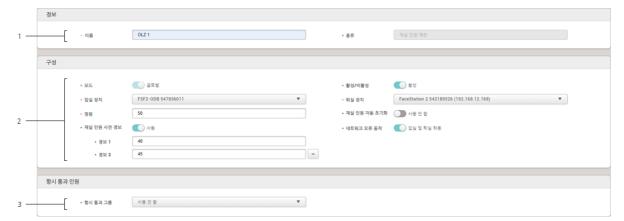
	•	
	BioStar 2  J	
2	, 가 Wiegand	
	・	
	· 가	. 16
	4320 ;	가
	가	
3	<b>□</b>	
	•	•

4) .

. , 가

• 100 가 .

- FaceStation F2 1.1.0
- FaceStation 2 1.5.0
- 1) > 가
- 2)
- 3) .



1	• : • : • 48
2	・ / : ・ / : ・ , 가

	,	가	ı		
	:		.0	10,000	
	,0		.0	10,000	
	-	:			
				가	
	· :				
			1	가	. 2
	+				
	:			가	
			•		
			가	,	
	_				
	Ż				
	•				
	•	128			
	• -				•
	-		,UTC+1:	00	
	BioStar 2			00:00	
	UTC+2:00	BioStar 2		01:00	
		. 2			
	•	۷ .	1	, 2	
					,
3					
J					
	₽				

•		
	16	

4)

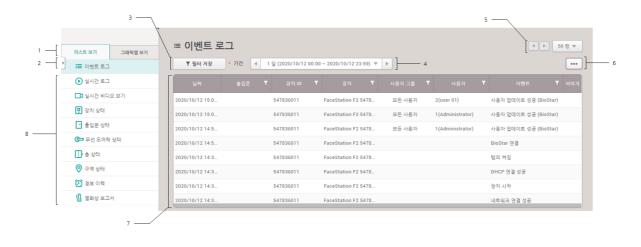


1	·
2	
3	■ 4
4	·
5	
6	·

7	·
8	• : : • : : • : : • : : : : : : : : : :

, ,

가



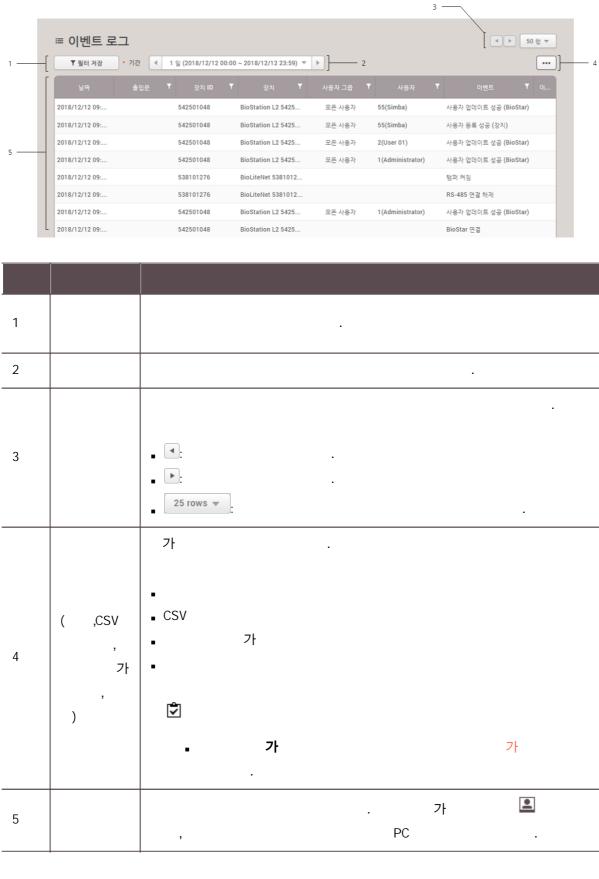
Ŝ

•

•

220

Ż								
•	ı							
•								
٦								
•								
		가						
		·				(	,	
					가			•
1)	>	>						
2)				₹			•	



Ŷ

■ 가

최신 50 행 ▼ 전체 2016/07/22 00:00 2016/07/29 23:59 로그 업데이트 가 BioStar 2 BioStar 2 가 가 가 (USB) BioStar 2 Ŷ BioStar 2 가 FaceStation F2, FaceStation 2, FaceLite, BioStation A2, BioStation 2, X-Station 2, 가 BioStation 3 가 가 BioStar 2 ••• 가 1) 인쇄 CSV 내보내기 열 설정

가

2)

3)

(\*.tgz)

가

Ŷ

•

• . , 가

.

■ 가





1		
2	/	·
3		·
4	( )	
5		. 가



IP . ,

Ŷ

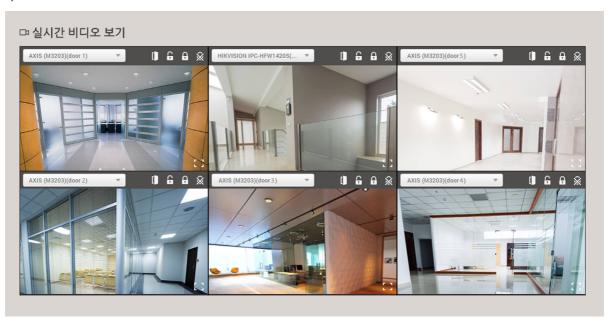
· ·

NVR IP .

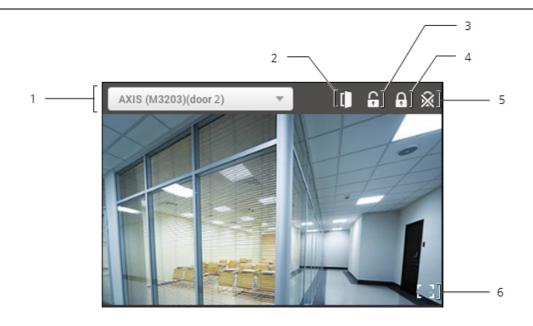
■ Live Monitoring IP " ...

PC-NVR .

1) > > .



2) .

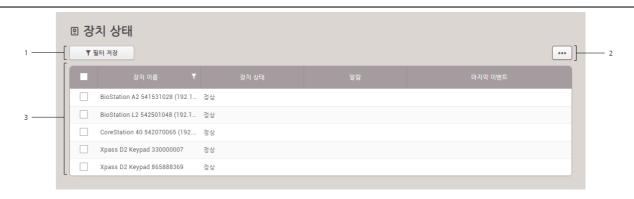


1	IP	IP	IP	가
2				
3		·		
4		·		
5				
6		IP		

, ,

1) > > .

**Y** . .



1		·
2	( )	
3		

1) > >



1	·
2	

	( )	
		·
		가 .
		- :
		,
3		• :
		,
		■ APB

Ŝ

•

■ : 가

■ : 가 가 가 .

■ : 가 .

• :

: 가

.

1) > > .

2) **T** .



1		
2	( )	·
		·
		• : 가 . • / :
3		•
		· •
		• > , , , ,

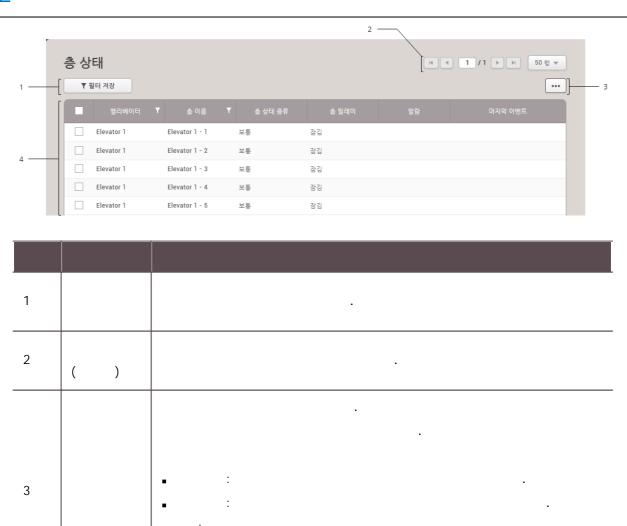
,

Ď

•

1) > > .

**▼** .



, , ,

Ŷ

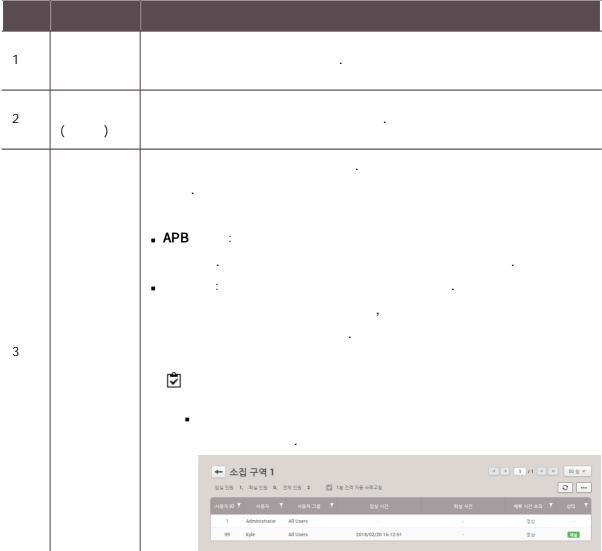
.

• .

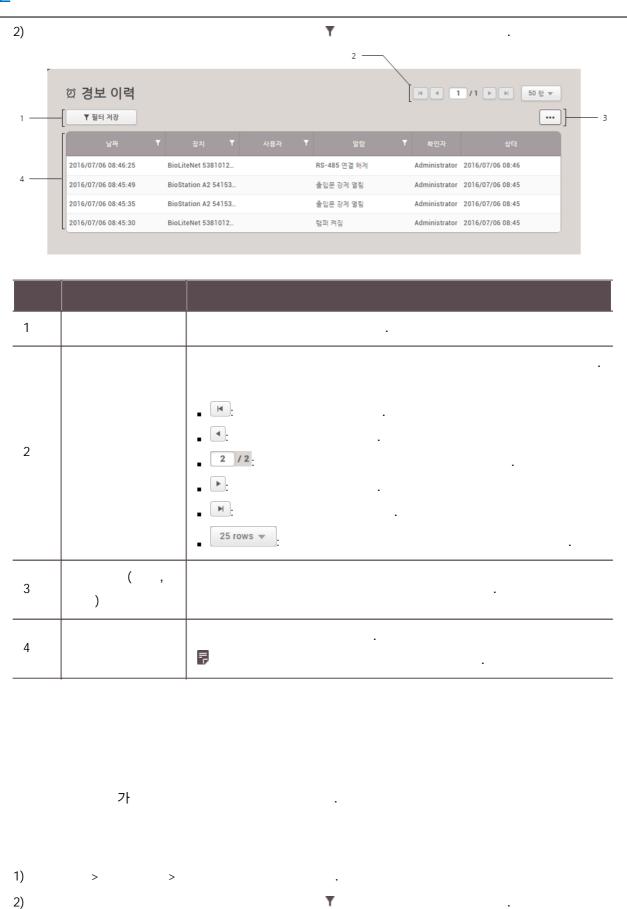
1) > > .

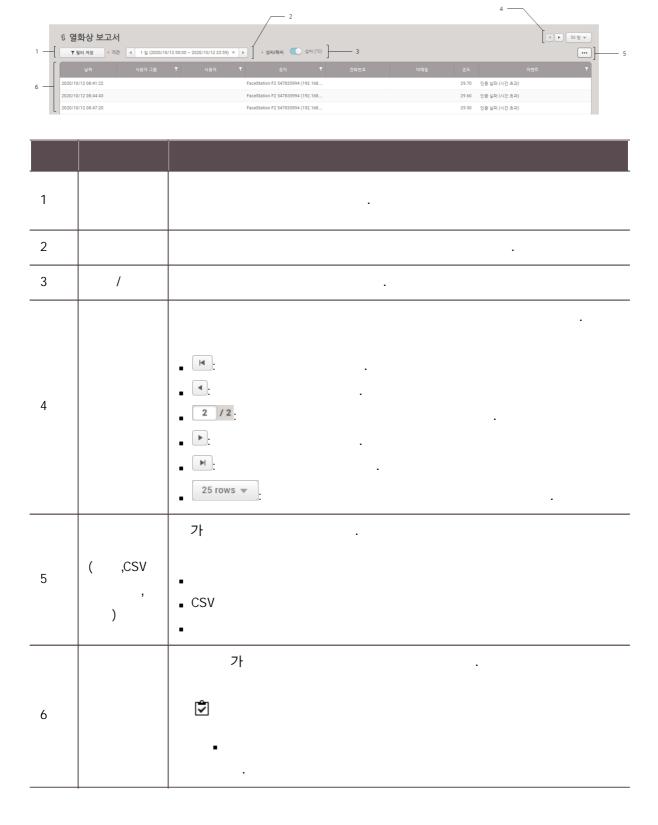
2) **T** .





1) > >





가

Ş

가

- 가

1) >

2) **가** 

□ 고급 추가 고급 추가

3)

Ŷ

. 8

■ 48

1) >

2)

█ █ 모든 그래픽 맵 14F Graphic Man 🎁 15F Graphic M 이름 변경 그룹 삭제 3) Ş 48 1) 2) ■ 🂢 모든 그래픽 맵 14F Geaphic Man 그룹 추가 🎁 15F Graphic M 이름 변경 그룹 삭제 Ŷ 가

\$

**-** 가

- 1) > .
- 2) **가**



- 3)
- 4)

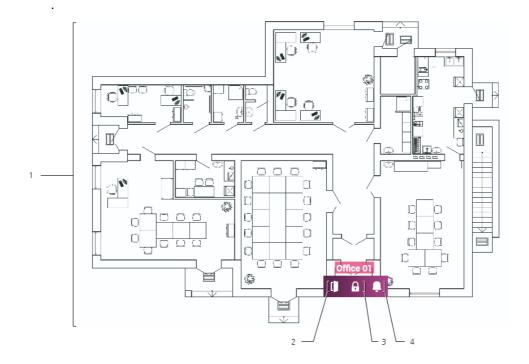
Ŷ

■ 5MB

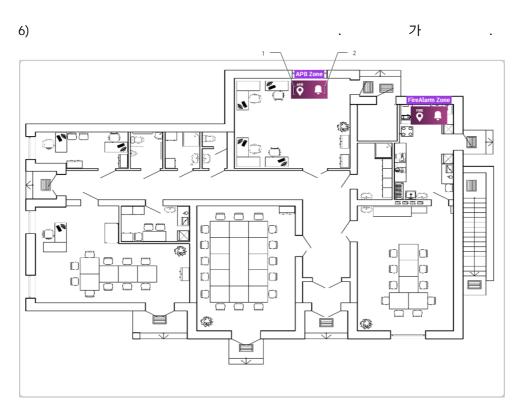
■ BMP, GIF, JPG, JPEG, PNG

BioStar 2

5) . 가



1	·
2	
3	
	IP
4	<b>₽</b>
	• 가 ·
5	





	4			
	•	100		
2				

7)

8)



3)

Office 02



3) .

IP . 가 IP

가

.

NVR 가 IP 가

Ż

.

.Windows >

■ BioStar 2 .

■ BioStar 27 PC (NTP)

. time.windows.com

가

## NVR 가

NVR 가

Ş

■ NVR ACTi, Dahua, Hikvision 가 .NVR 가

■ BioStar 2 NVR (NTP)

. time.windows.com

PC-NVR

■ NVR

- Dahua: DH-NVR4416-16P, DH-NVR608-32-4K

- Hikvision: DS-7616NI-E2/16P, DS-7608NI-E2 / 8P

1) > **NVR** 가

2) .

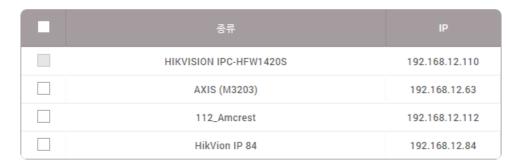


1		NVR		
2		NVR	ACTi, Dahua, Hikvisio	on .
3	IP	NVR IP		
4		NVR		
		NVR	(ID)	
5	ID	<b>*</b>		
		■ ID		.NVR

	6		NVR		( )		
	3)						
	څ						
	•	NVR	(IP, , ID,	)		·	
ΙP		가					
	NVR	IP	가				
	\$						
		IP BioStar 2		'R 가	·	NVR 가	(NTP)
			time.w	vindows.com			
	1)	>	71				
	2)	가 NV		·			
		NVR 선택				×	
		• NVR	NVR 1		*		
			다음	취소			
	3) NVF	3		. 가		+ 가	. NVR

## 검색된 카메라 목록 X

## NVR<sub>1</sub>

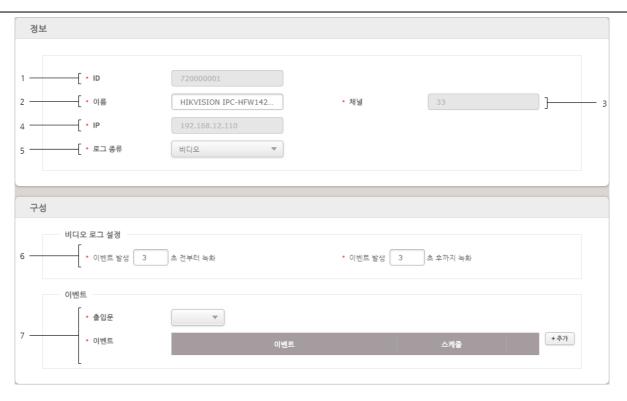




ΙP

, IP

- 1) .
- 2) .



1	ID	ID .
2		·
3		·
4	IP	IP .
5		.         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         . <t< td=""></t<>
6	/	



3)

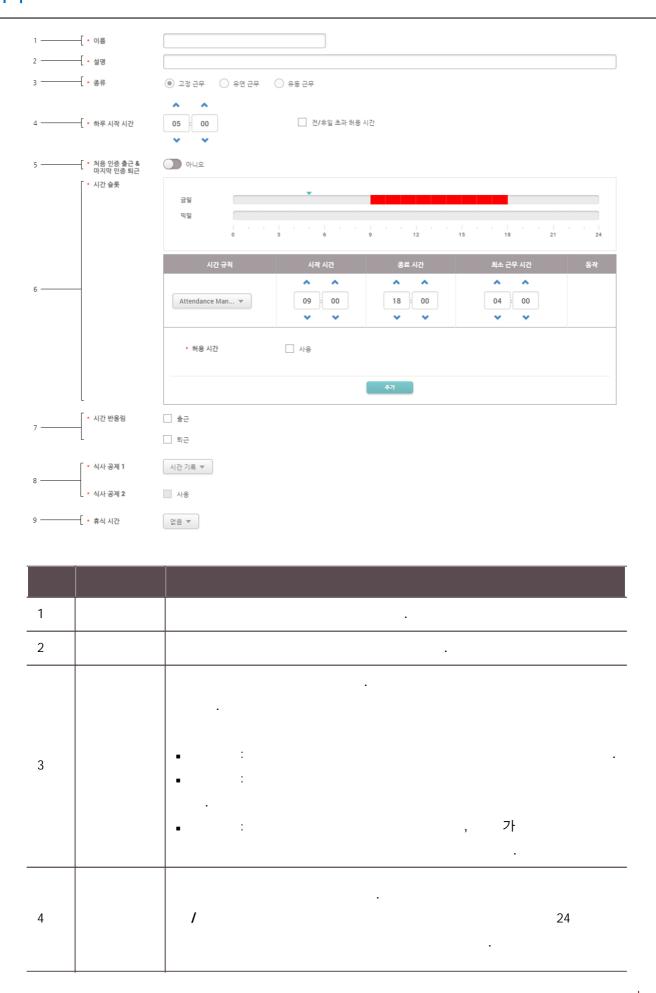
14 1 . . 가 2 (24) 3

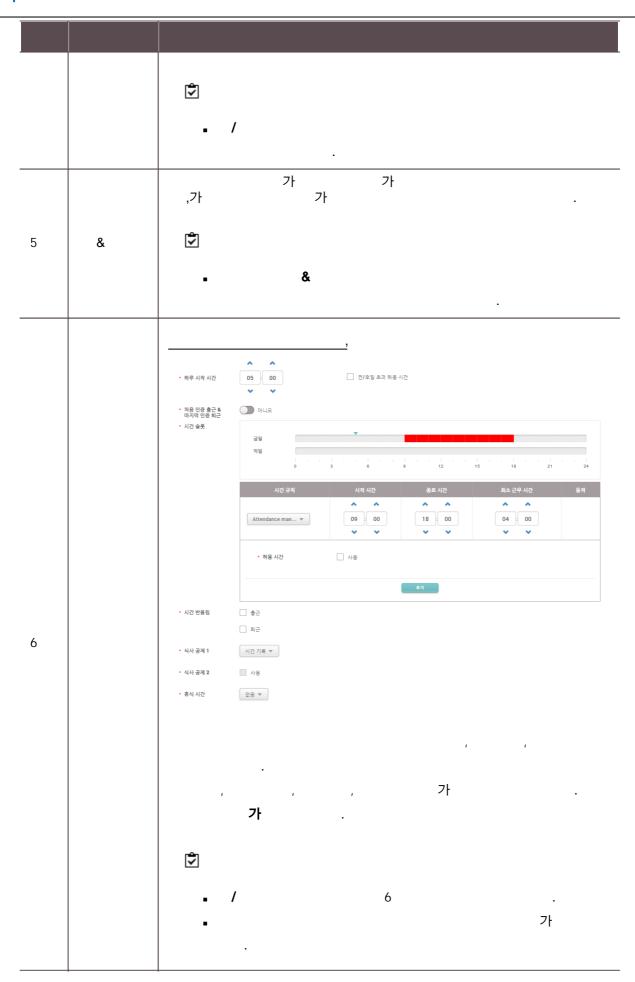
가 / / 가

5 , . , 가 가 1) > 2) **가** ◎ 정상 근무 ○ 연장 근무 ○ 부재 1

1		·
2		
3		・ :
4	가	가 .1 가 ,2 2 .
5		·

- 1) > .
- 2) **가** .





	•			ı	r
			,		
	• 하루 근무 시간	08 : 00			
		<b>* *</b>			
	• 옵션	• 시간 규칙	Attendance man ▼		
		• 출근 시간 등록 제한	☐ 사용	• 퇴근 시간 등록 계한	□ 사용
		• 식사 공계 1	시간 기록 ▼		
		<ul> <li>식사 공제 2</li> </ul>	사용		
		• 시간 반올림	출근		
		• 휴식 시간	퇴근 없음 ▼		
			8.4		
		,		1	ı
	가		•		
	r <del>e</del> n				
	Ż				
	•				가 .

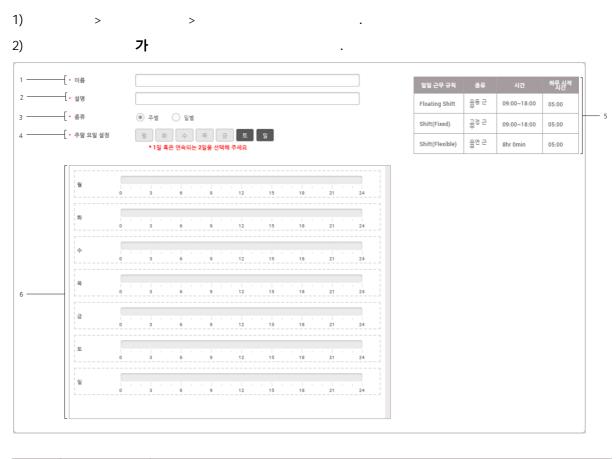
		• 근무조	▼ 부재 적용 기준						<b>₩</b> + 471
			<ul> <li>시간 슬롯</li> </ul>	급일	<u> </u>				
				익일		9 12 15	18 21	24	
				시간 규칙	0 3 6 시작 시간	9 12 15 종료 시간	18 21 최소 근무 시간	24 동작	
				Attendance man	^ ^	18 : 00	<b>^ ^ 0</b>		
				Accidance man	<b>V V</b>	¥ ¥	<b>V V</b>		
				• 출근 시간 인정	범위 05				
					·	• •			
					09	9 : 00			
				• 허용 시간					
						<b>4</b> 27			
			<ul> <li>시간 반올림</li> </ul>	□ 출근		74			
				□ 퇴근					
			• 식사 공제 1	시간 기록 ▼					
			<ul> <li>식사 공제 2</li> <li>휴식 시간</li> </ul>	사용 없음 ▼					
						,	,		1
						,	•		•
		,			ı	가			
		Î							
				5					
		- -			,				
		•				ı	1		ı
								,	
					,	10		,	7
			,8 5		8		8 8		
	7	8 10							
	1								
		:					가		
_									
_		 							

		■ : 가
		·
		•
		•
		· ;
		•
	_	
8	1,	
		. 2
		<b>2</b>
		·
		· : ,
9		
		•
3)		. 가 .

가

가

,

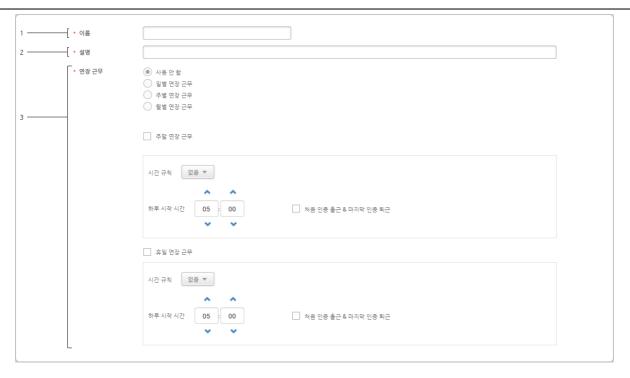


1		·
2		·
3		,
4		·
5		·
6	/	

	<b>Ů</b>			
	- /			,
		·	24	
3)		가		
	가	가	•	
	71			
	가		•	
	/ /			
,		가		

1) > >

2) **가** .



1						
2						
3	11 2	Overtime maa Overtime 불이후 Overtime manag ▼	e manag' 9	, 8	5	가 5 , 11 . ,
	주별 연장 근무 활별 연장 근무					

	<b>⊅</b>
	, <b>&amp;</b>
	주말 연장 근무 시간 규칙 않음 ▼
	시간 규칙
	휴일 연장 근무       시간 규칙       없음 ▼
	하루 시작 시간 05 00
3)	. 가 .

, , ,

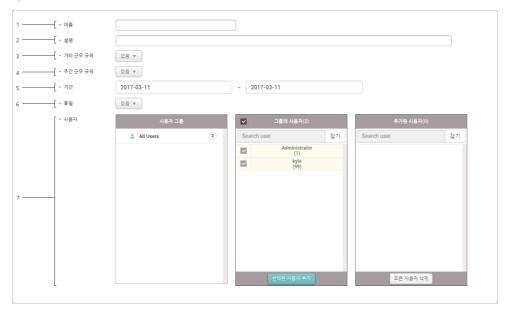
가 가 .

Ŷ

-

- 가

- 1) >
- 2) **가**



1	·
2	·
3	<b>₹</b>
4	<b>∵</b>

	•
5	<b>호</b> • 가
6	가 <b>호</b> • 가 가 가
7	가 .

3)

4)

Ŷ

· 가

- 가

1)



2) **가** Q 가



- 3)
- 4)

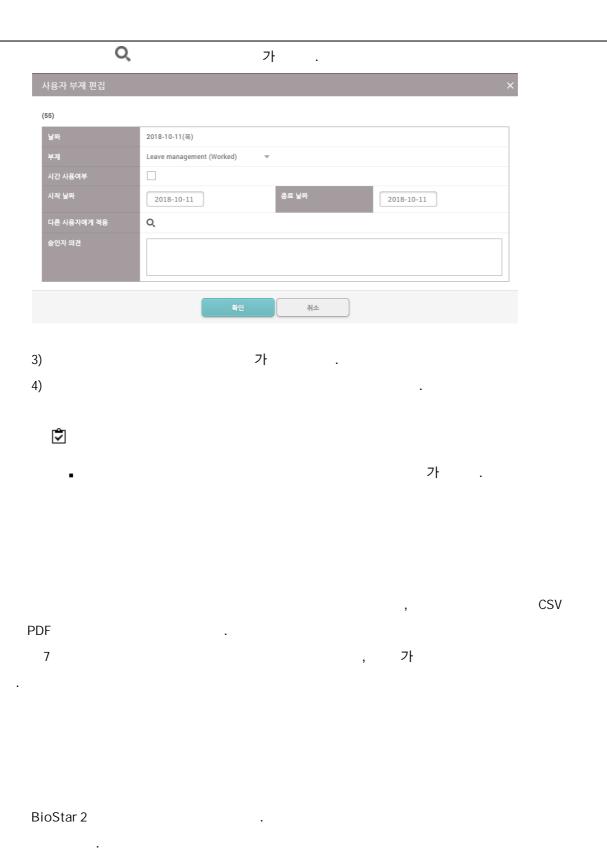
**-** 가

가

1)



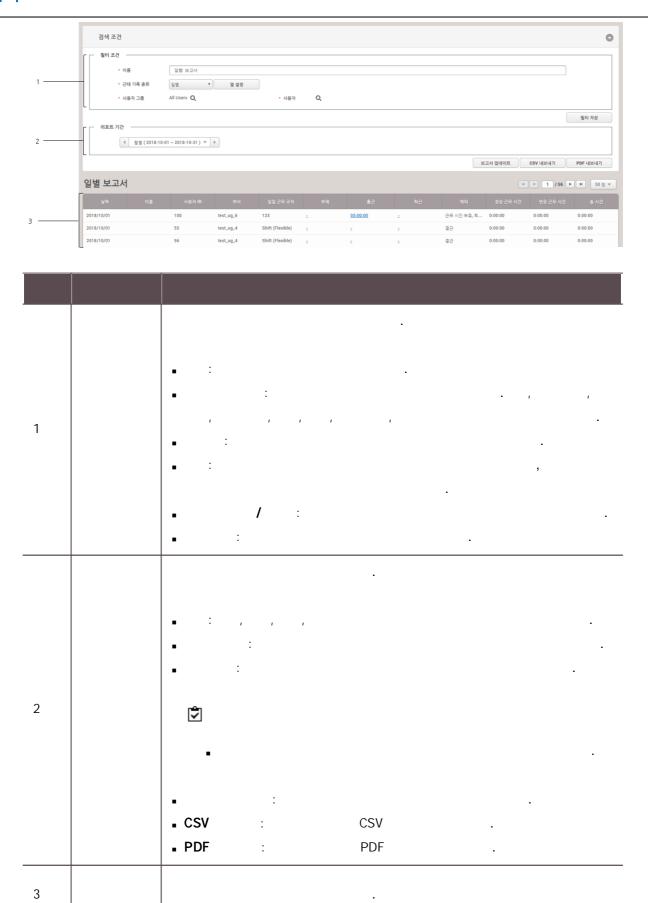
2) **가** 



 $1. \quad \hbox{[C:\Program Files\BioStar 2(x64)\ta\dist\setup\report\_fonts]}$ 

2. ISO 639-1

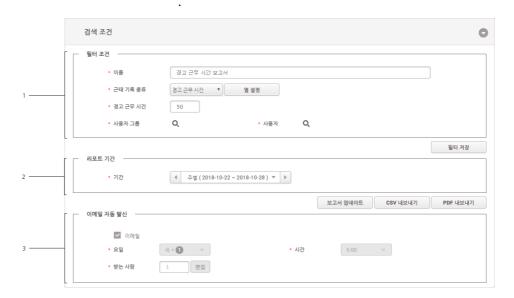
3.	
<u>PDF</u>	
1. Google Chrome PDF	
https://chrome.google.com/webstore/det	ail/pdf-viewer/
oemmndcbldboiebfnladdacbdfmadadm	
BioStar 2 MariaDB	.MS SQL
BioStar 2 MS SQL ,	가
PC ,	.MS SQL
1. Microsoft SQL Server Management Stud	. oik
2. <b>BioStar 2</b>	
3.	
( <del>*</del> )	
<ul><li>MariaDB MS SQL Server</li></ul>	BioStar 2
• Manabb M3 3QL 3el Vel	DioStal 2
·	
> .	
가	



1) > > .

2) .

3)



	_
	• : • :
1	
	. /

2	. :	:		
	CSV	:	CSV	
	■ PDF	:	PDF	
3	\$			<b>‡</b>

.

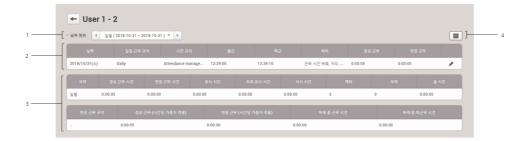
Ŷ

•

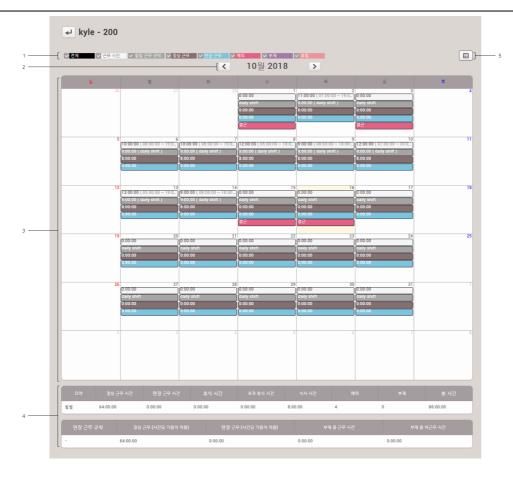
•

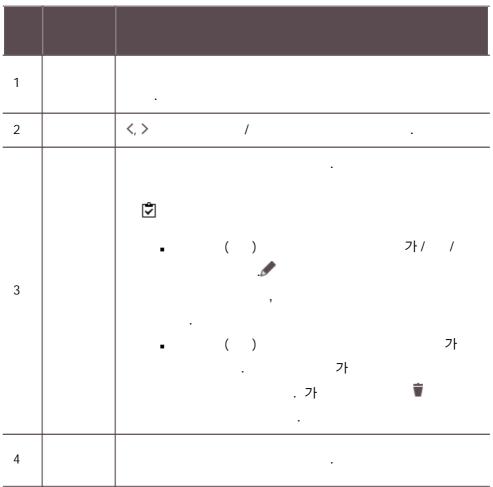
1) .

2) 가 .



1			
2	· /	・ / ・ 가	가/ / , , . 가 가 . 가
3			
4			





5	

CSV

1) > 🌣

2)



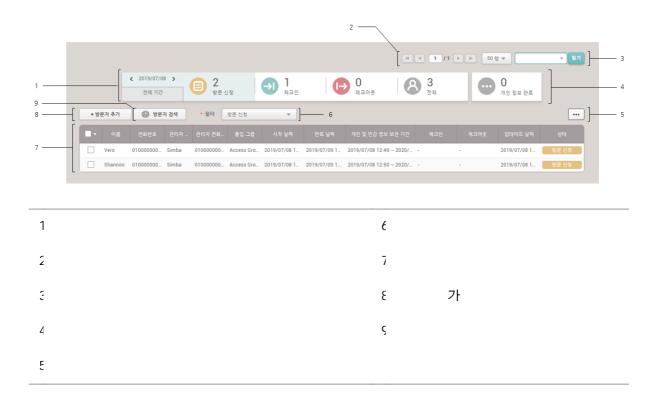
가가 .
+
·
·



Ş

PC , PC

Ŷ



가 . . .

.

Ŷ PC PC 가 가 PC 1) PC 이미 방문한 적이 있다면 아래의 정보를 입력해 Welcome 주세요. 이름 2) 3) 4) 방문 신청 정보 출입 정보 2019/05/29 14:04 ~ 2019/05/30 14:04 1

	:				
	:		•		
	<b>🕏</b>				
	_			71	71
	•			가	가
		48			
		•			
	:				
2	. :				
	n <del>o</del> n				
	<b>🕏</b>				
	•	48			
	:				
3	:	•			
	<b>3</b>				
		DC			
	•	PC			•
5)					
6)					



1	+
2	·

7)

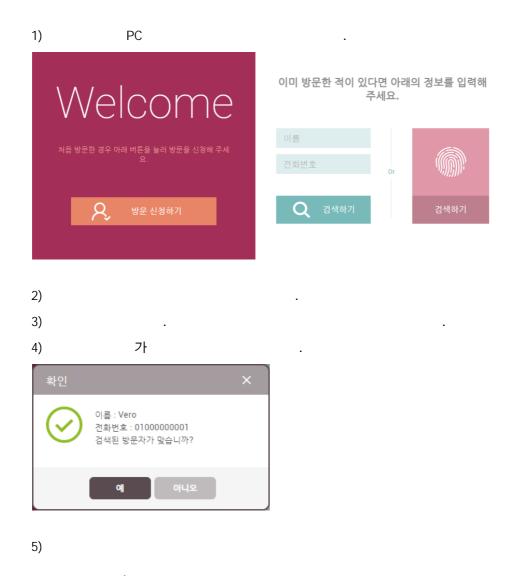
8)



4)

5)

6)



6)

7)

8)

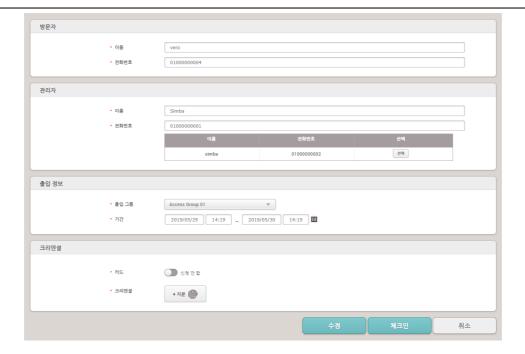
. 가

. 가 .

1) .

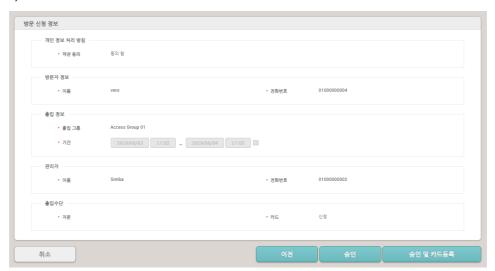
2) .

3) .





4)





PC 가

카드 등록

• 등록 방법

리더로 등록

• 식별 코드

• 카드 ID 1

등록

취소

a) .

PC

1) .

2)

1) .

2) **ID 1** .

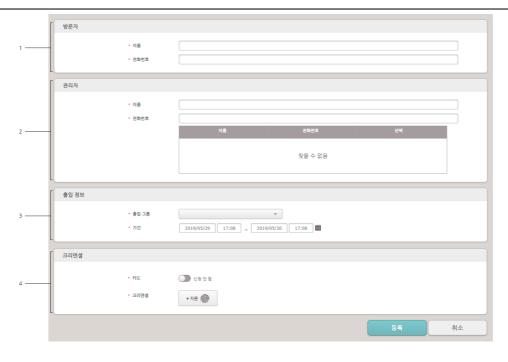
b) .

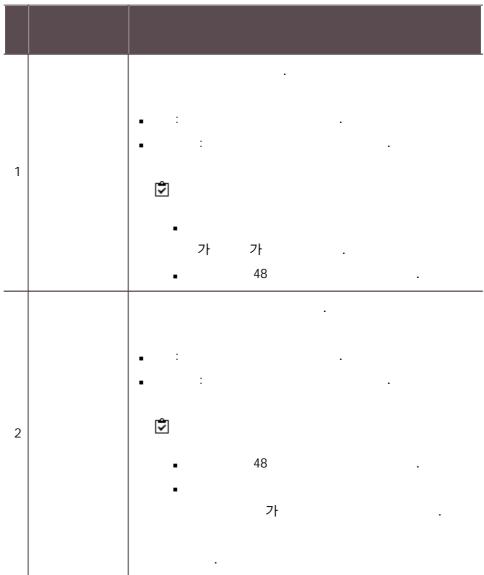
가

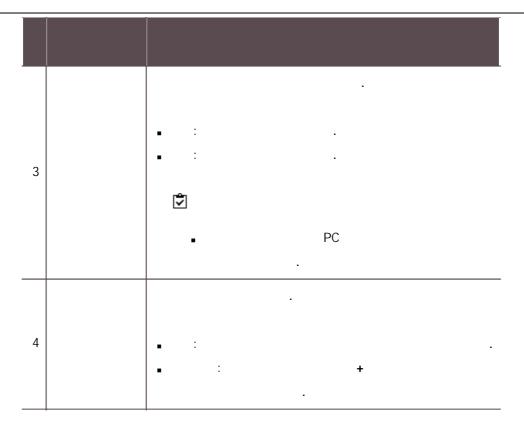
가 .

1) .

2) **+ 가** .







3) 가

1) .

2)



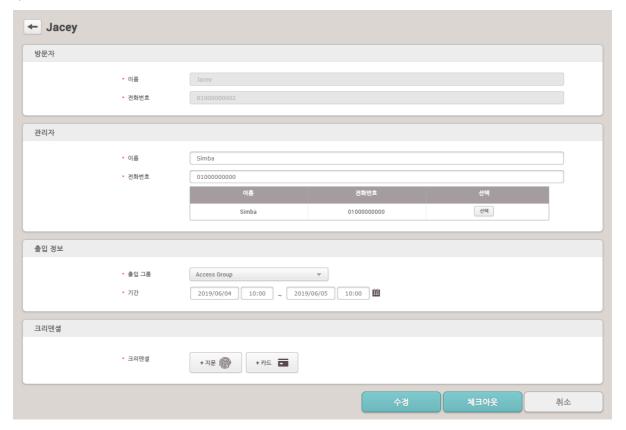
3)

Ż

**■** □( )

•

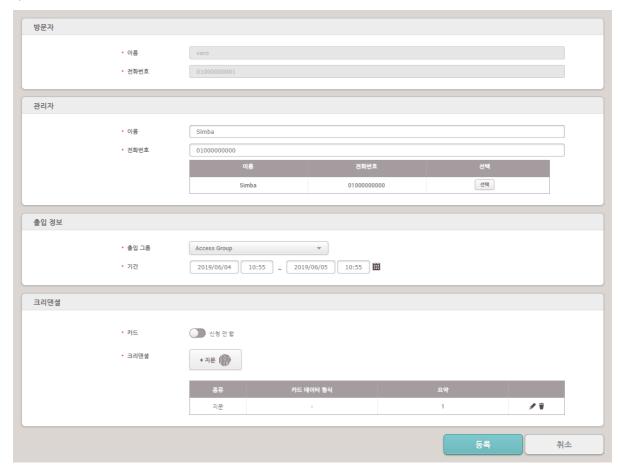
- 1)
- 2)
- 3)



Ŷ



- 1)
- 2) .
- 3)



4) . 가

가

, , . 가

1)

2)



Ŷ

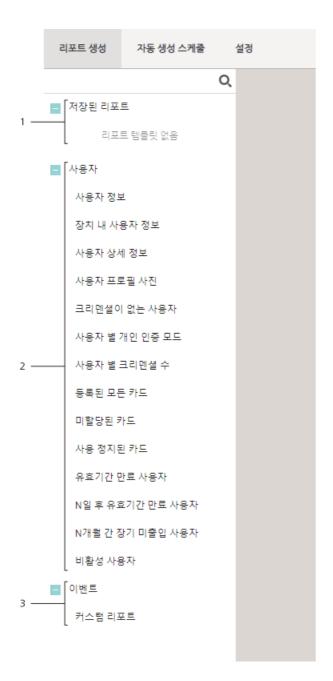
• 가

Ŷ

■ 가

1) 2) **<** 2019/06/04 **> 6** 개인 정보 만료 + 방문자 추가 해》 방문자 검색 • 필터 개인 정보 만료 ☞ 개인 정보 삭제 ••• Sunyoung 01000000... Simba 01000000... Access Gr... 2019/06/03 1... 2019/06/04 1... 2019/06/03 15:52 ~ 2019... 2019/06/03 1... 2019/06/03 1... 2019/06/04 1... 2019/06/03 15:52 ~ 2019... -2019/06/03 1... 2019/06/03 1... 2019/06/04 1... 2019/06/03 16:12 ~ 2019... -2019/06/03 1... 2019/06/04 1... 2019/06/03 10:38 ~ 2019... 2019/06/03 1... 2019/06/03 1... Ş & 3)  $\Box$  ( ) 4) BioStar 2 가 CSV, PDF Ŷ

BioStar 2



1									
									•
2									
3	•	:	,	,	(	ı	,	)	

BioStar 2 . BioStar 2

1) **가** 

• 스케줄 이름					
리포트 및 스케줄					
• 리포트	없음	▼	6		
• 생성 주기	었으	▼	• 생성 시간	00 : 00	
리포트 형식					
• 자동 생성 방·	었음	▼			
• 리포트 이름					
	모든 페이지에 제목 표시				
• 헤더	헤더 표시	모든 페이지에			
• 바닥글	페이지 번호				
• 파일 포맷	없음	▼			

1	•
2	
	• :
3	

	• :
	·
	<b>∵</b>
	<u>.</u>
	•

3)

- 1) > .
- 2) .



1		PC "Documents\BioStar2" .
2	BioStar 2	BioStar 2

1 1 1 1

.

BioStar .

HTTPS

USB Agent

1) 2) 가 가 가 Q 3) + **가** • 설명 • 아이템 상세 권한 • 메뉴 별 권한 대시보드 해당 없음 ~ 사용자 활성화 **~** 장치 활성화 **~ ~** 출입문 활성화 **~** ~ **~ ~** 구역 활성화 **~ ~** 출입통제 활성화 **~** ~ 활성화 **~ ~** 근태 관리 **~ ~** 설정 해당 없음 **~ ~** + 47 • 권한 부여 1(Administrator)

1	
2	·

3					
4					
5				가	+ 가
	. ₩	가	٠		

4)

Ŷ

• 가/ 가 가 .

 ・
 가
 가

 ・
 ・
 ・

가

가

가 가 .

**♥** 

- 1) > .
- 2) **가** .
- 3) .

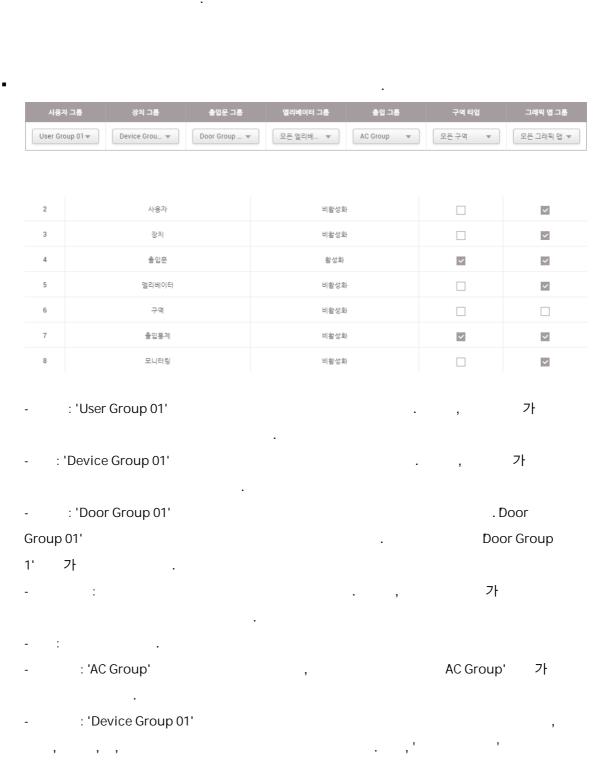


1	·
2	·
3	, , , , , 가 가 , , , , , , , , , , , , ,
4	<ul> <li>■ : 가, ,</li> <li>■ :</li> <li>과 :</li> <li>가 :</li> <li>가 :</li> </ul>

	,		가	
		가		가
5	+ 가			
	. ₩	가	•	

4)

Ş



, ,

,

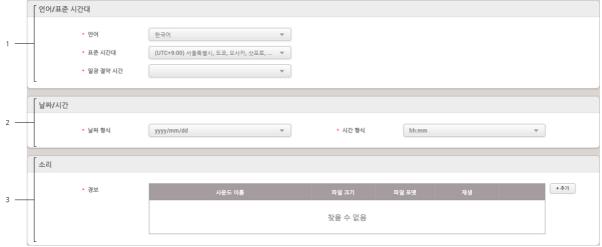
. 가

. 가 .

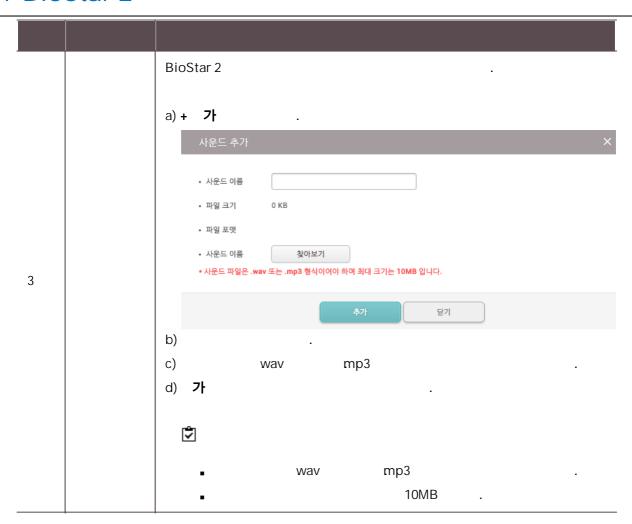
BioStar 2 , , / ,

1) > .

2) .



		BioStar 2 .
1	/	■ : ■ : BioStar 2
2	/	BioStar 2



3)

,

1) > . ,

카드 종류	카드 ID	상태	사용자 ID	사용자 이름
CSN	1225051669057584	할당 카드	2	User 1
CSN	4276710323	미할당 카드	-	-
CSN	989777499	미할당 카드	-	-
CSN	1217252008448048	미할당 카드	-	-
CSN	1234938686282624	미할당 카드	-	-
CSN	308871143	미할당 카드	-	-

2)

Ż

**.** 가

#### Wiegand

Wiegand

Ŷ

1) >

2) Wiegand

3)



2

Wiegand 1) 2) Wiegand, Wiegand Wiegand 가 Ş Wiegand 15 1) > 2) Wiegand 3) 정보 - 이름 • 설명 • 총 비트 32 • 식별 코드 필드 +추가 • ID 필드 A A ... 0 + 추가 • 패리티 비트 A A ... 1 Wiegand

3						
4		)				
5	ID	l 가	D		.+ 가	ID
6		+ 가		가		
		•	가		·	

4) Wiegand



MIFARE, iCLASS, DESFire, iCLASS Seos,



- >

- 1) >
- 2) **가**



	■ <b>DESFire</b> : DESFire . DESFire
	<b>∵</b>
	■ DESFire
	, ID, ID,
	■ : 가
	가 , 가 가 .MIFARE iCLASS
	■ ID: ID . ID  .DESFire  . ID: ID .DESFire
	■ DES/3DES AES  DESFire
	■ ADF : ADF iCLASS Seos
	• :
	■ :( 가 ) MIFARE DESFire .
	가 .
5	•

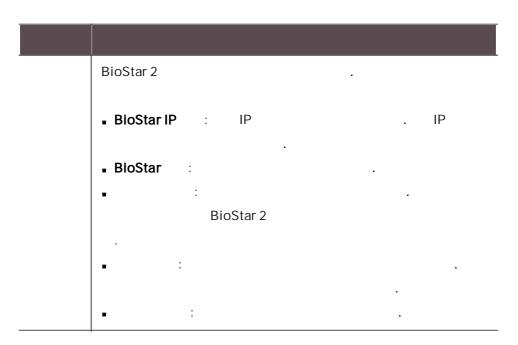
	<b>🕏</b>		
	•	FaceStation F2	

3)

BioStar 2 , , .

1) > .



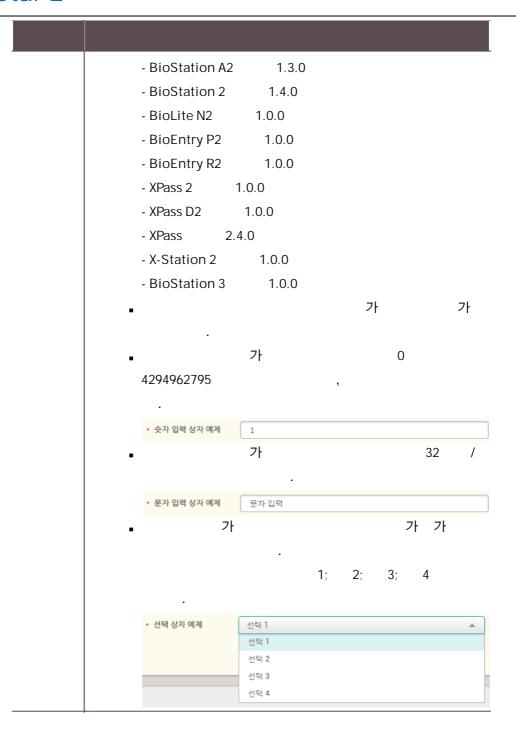




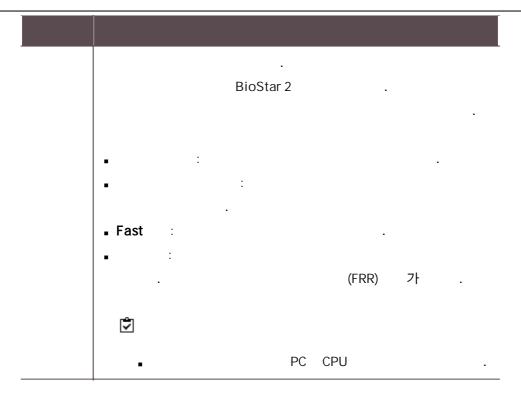
<u>.</u>
- 가
- <b>( )</b> 가 . ,
· 가
- (
•
•
SUPREMA, ISO, ANSI378 ,
■ ID : ID Biolite Not
. <b>ID</b> BioLite Net, BioEntry Plus, BioEntry W . ,XPass
YDass \$2 74
, , , , , , , , , , , , , , , , , , ,
. 가
+ 가
• : 가 가
, 가
20 32 가 ,
(;)

```
■ AoC
           AoC
                                BioStar 2
  Ŷ
                )
                                (
                )
                )
     NFC
                  OS: Android 5.0 Lollipop
                                             Android 10,
      - BioStar 2 Mobile 2.4.1
      - XPass S2: XPS2M-V2
                                2.4
      - BioStation 2: BS2-OMPW, BS2-OIPW
                                               1.4 ,
      1.8
      - BioStation A2: BSA2-OMPW, BSA2-OIPW
                                                   1.3
         ,1.7.1
```

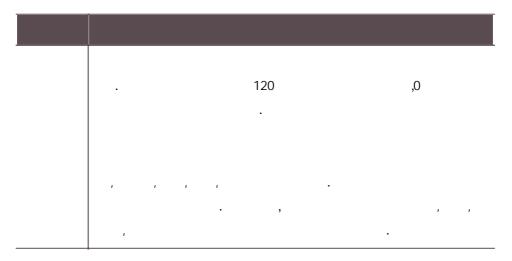
	- BioStation L2:	BSL2-OM 1.	.2
	- BioEntry W2: B	EW2-OAP, BEW2-C	DDP 1.1 ,
	1.5		
	- FaceStation 2:	FS2-D, FS2-AWB	1.3.1
	- BioLite N2: BLN	N2-ODB, BLN2-OAI	B, BLN2-PAB
	1.2		
	- XPass D2: XPD2	-MDB, XPD2-GDB,	XPD2-GKDB
	1.3		
	- FaceLite: FL-DE	3 1.1	
	- XPass 2: XP2-MI	DPB, XP2-GDPB, XI	P2-GKDPB 1.0
	- BioEntry P2: Bl	EP2-OD, BEP2-OA	1.0
	- BioEntry R2: Bl	ER2-OD 1.1.	0
	BLE		
	- OS:	Android 5.0 Lollip	oop ,Android 10
	/iOS 9.0		
	- BioStar 2 Mobi	le 2.4.1	
	- FaceStation 2:	FS2-AWB 1.	3.1
	- BioLite N2: BLN	N2-ODB, BLN2-OAI	B, BLN2-PAB
	1.2		
	- XPass D2: XPD2	-MDB, XPD2-GDB,	XPD2-GKDB
	1.3		
	- FaceLite: FL-DE	3 1.1	
	- XPass 2: XP2-MI	DPB, XP2-GDPB, XI	P2-GKDPB 1.0
•		(Airfo	b Pass)
-	ID		BioStar 2
•	ID		
	- CoreStation	1.0.0	
	- FaceStaion 2	1.0.0	
	- FaceLite	1.0.0	
	- BioEntry W2	1.1.0	
	- BioStation L2	1.2.0	











2)

Ŷ

• HTTPS 가

, , 가 가 BioStar 2가





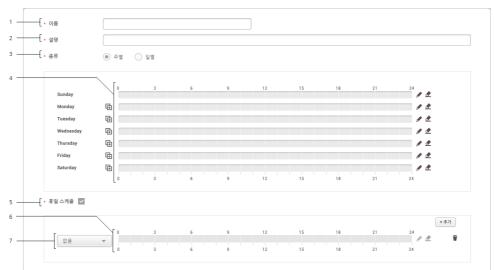
2		・ ・ ・ ・ ・ ・ ・	
3	, ,	. BioStar 2  □ □	·
4		<b>☆</b>	·
5	BioStar 2		BioStar 2
6		가  BioStar  가  가  가  가  가  가  가	.BioStar 2

3) .

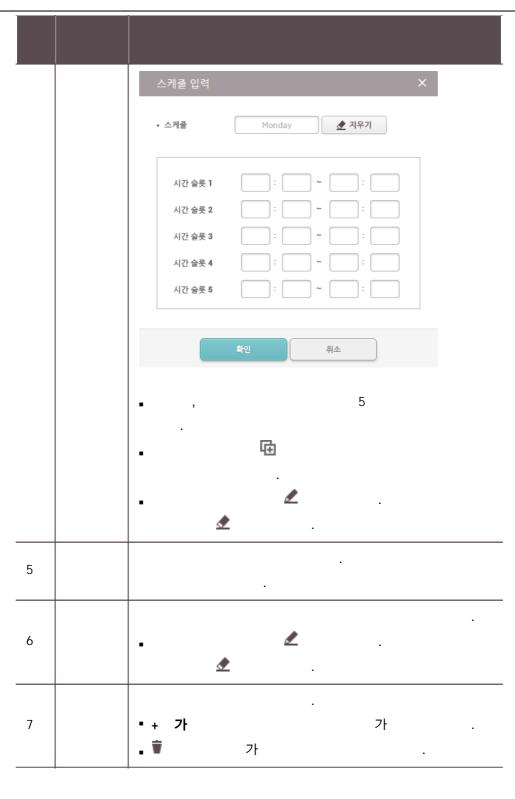
**⊅** 

**-** 가

- 1) > .
- 2) **가**
- 3)



1		
2		
3	,	
4	·	



4)

+ 가

, , 가 가 가 BioStar 2가

1) >



2)

3) 🖥 . 가



4)

#### **HTTPS**

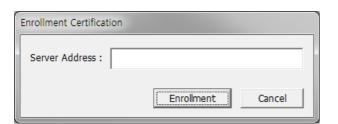
BioStar 2 HTTPS BioStar 27 IP

BioStar 2

Ŷ

■ BioStar 2.7.14 HTTPS

- 1) > **HTTPS**
- 2) .
- 3) cert-register.exe .Enrollment Certification



- 4) BioStar 2가 PC IP **Enrollment**
- 5)
- 6) IP 가 .

BioStar 2 BioStar 2

Ŷ

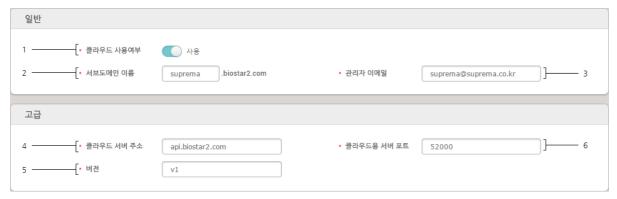
• 가 .

■ Internet Explorer Edge BioStar 2

■ BioStar 2 .

1) > .

2) .



		BioStar 2				BioStar 2
1	<b>₽</b>					
-			·		BioS	 tar 2
2		ID				
3						
4						
5						
6		·				(52000)
	7	ŀ		BioStar 2가	PC	

	•	가	: BioStar 2	(	: 80,	),
	BioStar 2	(	: 52000,	)		
		가	: 4443, ngrok			

3)

Ŷ

**.** 10

■ BioStar 2 . 1

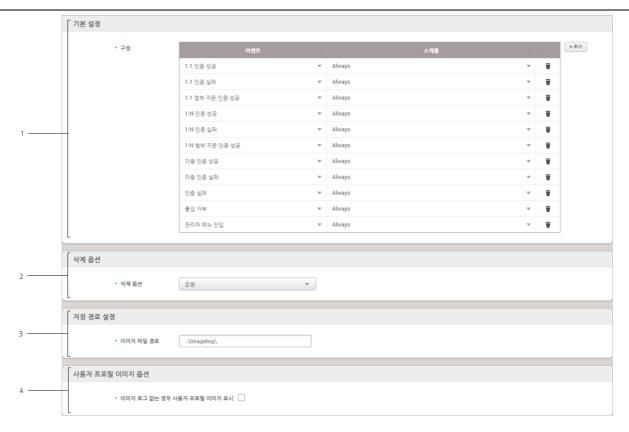
.

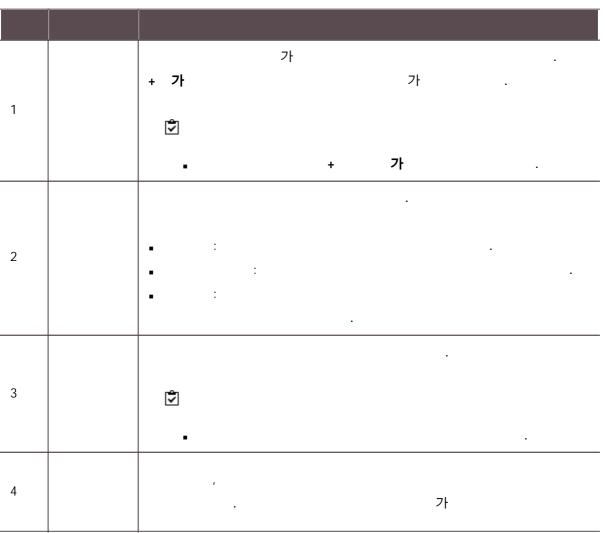
가

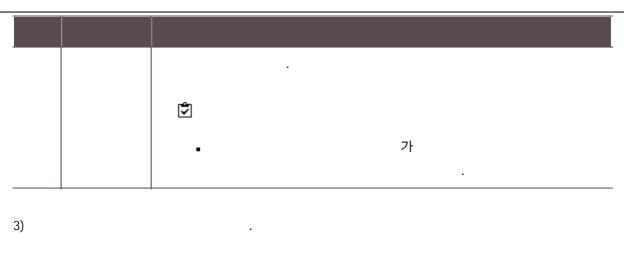
.

1) > .

2) .







Ŷ

• > . 가/

### **USB Agent**

PC BioStar 2 USB USB Device Agent

Ż

Windows
USB Agent

1) > USB AGENT

2)

USB Device Agent
USB 연결 장치를 사용하려면 USB Device Agent를 먼저 설치해야 합니다. 다운로드 버튼을 클릭하여 USB Device Agent 다운로드 한 뒤 설치하십시오.

다운로드

3) USB



4) USB Agent가

USB Agent 포트	
USB Agent 클라이언트 별로 등작하는 프로그램으	로, 포트 번호 설정은 서버가 해당 포트 번호로 통신하기 위한 용도입니다.
• USB Agent 포트 번호	0081

5)

#### BioStar 2

Ŷ

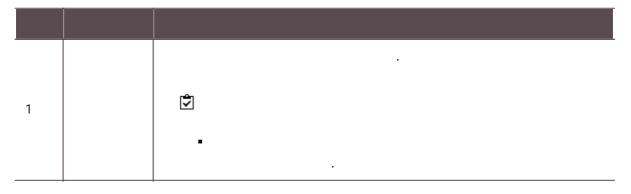
**1**0

■ 3000

**5**,000

1) > .





2		.FaceStation 2	가
	+ 가		
	Ů		
3	<b>.</b> 10		
	•	3,000	·



1	1	3	3	
2				<u></u> 가

3		2 / 2
4	(CSV	CSV .
5		·

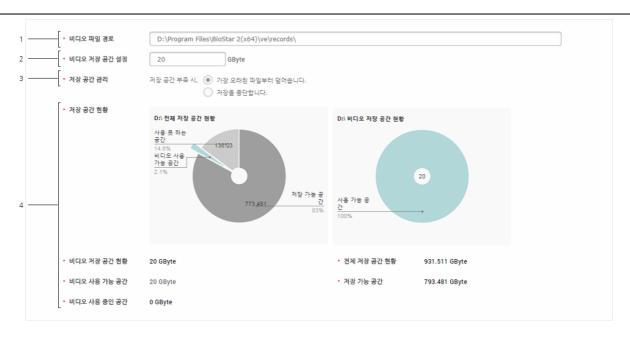
.

Ŷ

• ( , )
가

1) > .

2) .



1	
2	
3	
4	

3)

(DST)

1) >

2) **+ 가** 

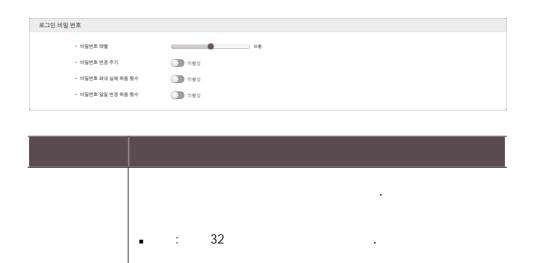
3) **가** 



4)

Ŷ

1) >



. :	8~32 (	
)		
# :	10~32 (	,
	, ,	
٥		
•		
		가
•		
Ö		
_	1 180	
•	1 160	
man.		
Ġ		
•	10	

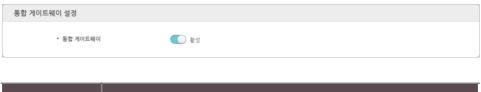


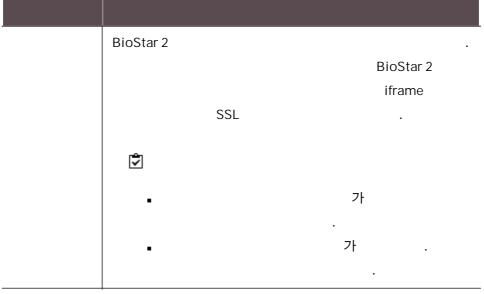
	DB		DB
	가		
	ٿ		
	■ DB		
DB	- ID -		
DB	- - IP -		
	- ID -		
	- - ID		
	-		
	■ <b>DB</b> .BioStar 2	가	
	DB		
DB		가 .	
	<b>☆</b>	, 32	
	BioStar 2	BioStar 2가	
			oStar

Ŷ - FaceStation 2 1.1.0 - BioStation A2 1.5.0 - BioStation 2 1.6.0 - BioStation L2 1.3.0 - BioLite N2 1.0.0 - BioEntry P2 1.1.0 - BioEntry W2 1.2.0 - FaceLite 1.0.0 - XPass 2 1.0.0 - CoreStation 1.1.0 - X-Station 2 1.0.0 - BioStation 3 1.0.0 ■ BioStar 2 [ ] - ] - B ] [A - **A** ■ BioStar 2 BioStar 2 가









3)

Microsoft Windows Active Directory

BioStar 2



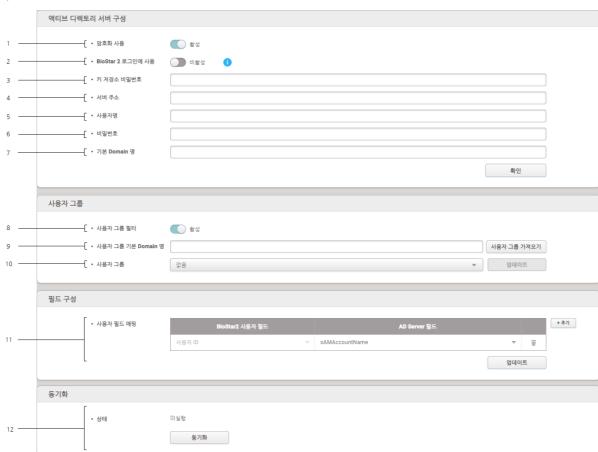
•

Widows Server 2008 R2

■ ID

1) >

2)





		·
2	BioStar 2	Windows Active Directory BioStar 2 . Windows Active Directory sAMAccountName BioStar 2 ID .
3		Windows Active Directory .
4		Windows Active Directory .
5		Windows Active Directory ID .
6		Windows Active Directory .
7	Domain	a) Active Directory b) 가 Node c) d) distinguishedName
8		·
9	Domain	Windows Active Directory .
1 0		
1 1		Windows Active Directory BioStar 2  - 사용자 필드 메핑  - 사용자 미

	AD Server			
	c)			
	<b>*</b>			
	. ID			
1 2	·	가	,	가

Windows Active Directory

### 1 .Active Directory

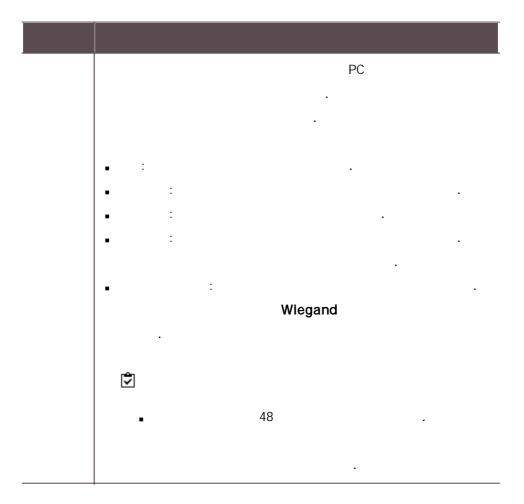
Windows Active Directory Active Directory **Active Directory** 1) Windows Active Directory 가 PC 가 2) 3) 4) 5) **Active Directory** 가 6) 7) Active Directory **Active Directory** 8) 가 9) **AD CS** 10) CA 11)

2)

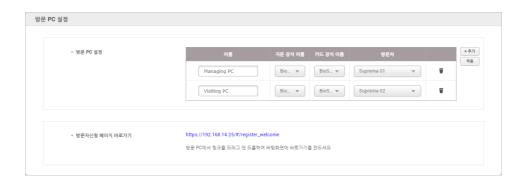
, ,	100tal 2
12)	CA CA .
13)	·
14)	, <b>CA</b> ,
15)	
16)	Active Directory .
2	.LDAPS(LDAP over SSL/TLS)
1) 2)	Windows . Idp .
3)	Ldp-disconnected .
4)	SSL .
3	
3	•
1)	Windows Active Directory 가 PC .
2)	certutil -ca.cert client.crt
3)	keytool -import -keystore ad.jks -file client.crt jks
4)	.jks BioStar 2 .
	PC ,
	. 가 .
	<u> </u>
	•
	•
1)	> .

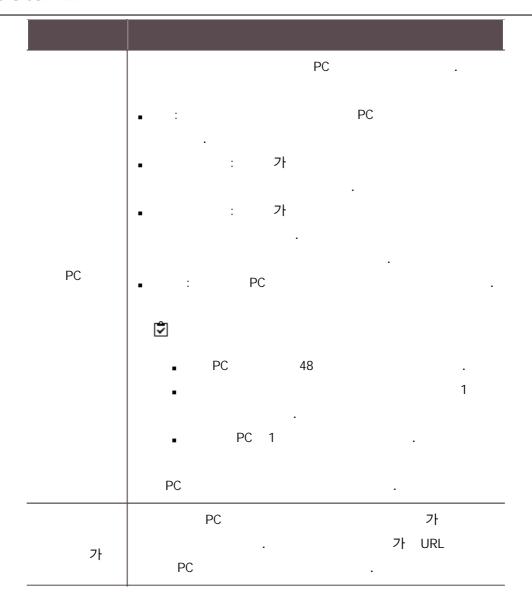
326



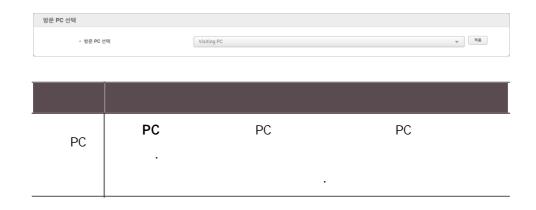


PC

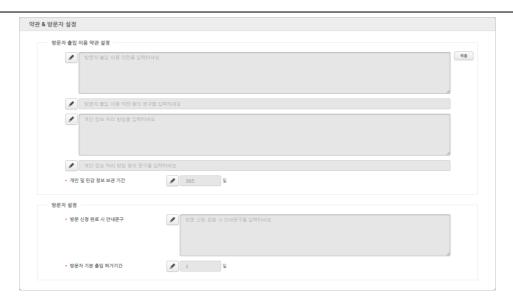


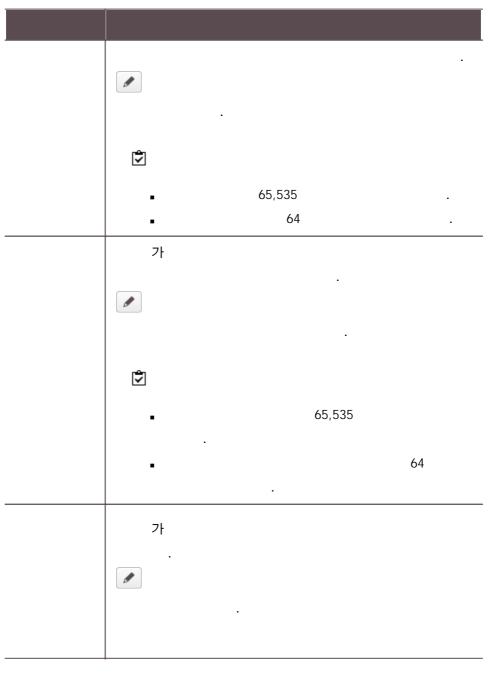


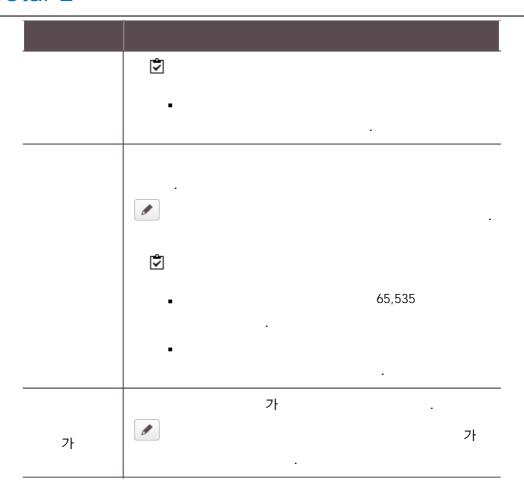
PC



&

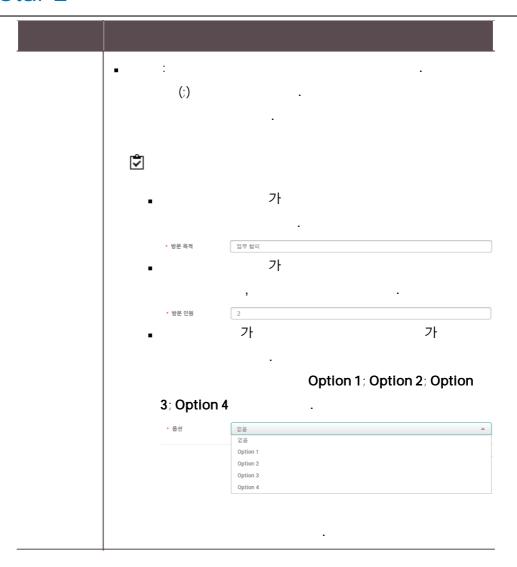








		가		가	, 가	
•	:		가			
	:		가			
•	:		,	,		
	•					



BioStar 2 Airfob Portal BioStar 2

Airfob Portal 가



■ CSN Mobile 가

- CSN Mobile
  - XPass 2 1.1.0
  - XPass D2(Rev 2) 1.4.0
  - BioLite N2 1.3.0
  - BioEntry W2(Rev 2) 1.6.0

- FaceStation 2 1.4.0 - FaceStation F2 1.0.0 - BioStation 2 1.9.0 (NFC ) - BioStation A2 1.8.0 (NFC ) - FaceLite 1.2.0 - X-Station 2 1.0.0 - BioStation 3 1.0.0 - BioStation 3 1.2.0

#### 1 Airfob Portal 가

Airfob Portal ,

⊚

Airfob Portal

#### 2 .BioStar 2

,Airfob Portal

3

Airfob Pass BioStar 2

4

BioStar 2

#### Airfob Portal

Airfob Portal

- 1) Airfob Portal(https://portal.airfob.com/ko)
- 2) 가
- 3) Airfob Portal 가

څ

4)

• 6 .

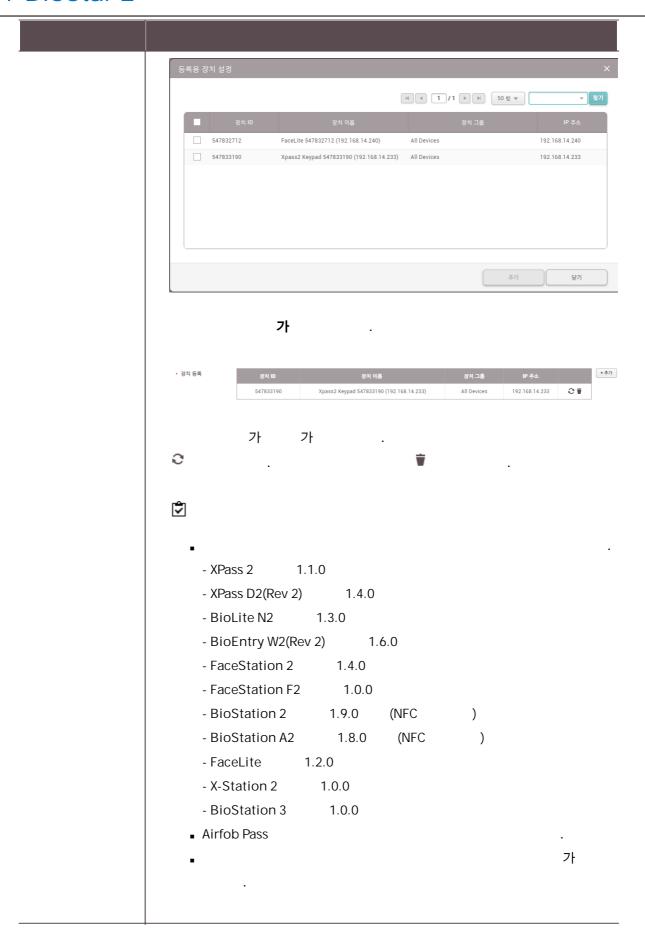
- 5)
- 6) Airfob Portal
- 7)
- 8)
- 9) .

Ŷ

10) 가

- :				,
,		가 가		
- :			•	, 가 BioStar 2
		Airfob Portal		
Airfob Port	al	Airfa	nb Portal(htt	ps://portal.airfob.com/ko)
				,
	J	Airfob Portal		
	·			
>		•		
<ul> <li>모바일 출입 카드 설정</li> <li>도메인</li> </ul>	사용		<ul><li>사이트 Type</li><li>포트</li></ul>	443
* 포메진	https://api.mc.suprema.io		* #=	443
• 사이트 ID	1318		• 이메일	test@suprema.co.kr
	Airfob Port	Airfob Portal	, , 가가  - : Airfob Portal  Airfob Portal  ,Airfob Portal	, , , 기가  Airfob Portal  Airfob Portal  Airfob Portal  Airfob Portal

■ BioStar 2		Airfob Portal 가
	•	
■ Type:		
   <b>2</b>		
-		
- :		, 가 가
,	, ,	2121
- : BioStar 2		, 가
Biodiai 2		
Aine-I- D		
<ul><li>: Airfob Portal</li><li>: Airfob Portal</li></ul>		
■ ID: Airfob Portal	ID	. ID
Airfob Portal >		
. :		
:		
, , ID,	1	Airfob
Portal	•	
• 정치 등록 경치 ID	강치 이름	강치그룹 IP 주소
	찾을 수 없음	
	가 + <b>기</b>	BioStar 2



QR/ Ŷ 가 QR/ 가 - FaceStation F2, BioStation 3 QR/Barcode - X-Station 2 (XS2-QDPB, XS2-QAPB) QR/Barcode - X-Station 2 (XS2-ODPB, XS2-OAPB, XS2-DPB, XS2-APB) 1.2.0 - BioStation 3 (BS3-DB, BS3-APWB) 1.1.0 QR/Barcode 가 1) 2) (Simple Mail SMTP Transfer Protocol, SMTP)

SMTP 정보	X
보낸 사람 정보  • SMTP 서버 이름  • 설명  • 서버 주소  • 포트(기본값:25)  • 사용자 이름  • 암호  • 보안 종류  • 보낸 사람	25  SSL    SSL
확인	취소
■ SMTP : SMTP ■ : SMTP ■ : SMTP	
.2	SMTP

		가	2
	가	•	•
	,SMTP		
	SMTP		·
2			



1	·	·
2		
3		
4	<b>₽</b>	GIF, JPG, JPEG, JPE,
	JFIF, PNG . ■	5MB .

5			
6	<b>⊅</b>	 5,000	·

### QR



1	QR	QR/ QR/ .
2		QR/
3		
4		GIF, JPG, JPEG, JPE, JFIF, PNG  5MB
5		·

3)

#### BioStar 2

1) >



BioStar 2			
BioStar 2			
		BioStar 2	
	BioStar 2	BioStar 2	BioStar 2 . BioStar 2

BioStar 2 USB

Ŷ

가

100

)

ID

가 ID

1)



1	가 , , ,
2	Camera QR  Camera QR  Camera QR  X-Station 2 (XS2-ODPB, XS2-OAPB, XS2-DPB, XS2-APB) 1.2.0 - BioStation 3 (BS3-DB, BS3-APWB) 1.1.0  ■ U&Z

	<b>□</b>
	■ U&Z 8
	■ U&Z
	8 . 8 .
3	
	U&Z
4	<b>©</b>
	■ U&Z
	·
	■ <b>ID</b> : ID .
	•
	- , , , , , , , , , , , , , , , , , , ,
5	- , ,
	: U&Z
	· ☑
	■ U&Z
	•

2) .

가 ,

BioStar 2 cardPresso BioStar 2 가

.

Ŷ

• cardPresso .

- : cardPresso XXL edition

■ cardPreso PC cardPresso .

1) > .

2) .



cardPresso		
ID	cardPresso	ID . ID ADMIN' .
	cardPresso	. ådmin' .
IP		PC IP .
Port	cardPresso	·

3)

BioStar 2 , ,

Ŷ

■ MSSQL BioStar 27 PC BioStar 2

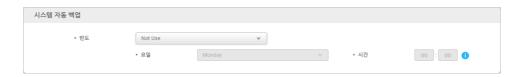
- 1) >
- 2) .



Ť	
	·
٦	
•	가
•	1~100

3)

- 1) >
- 2)



Daily / Weekly / Monthly

Weekly
Monthly
20, 20, 21
₫
■ BioStar 2 .

3)

BioStar 2가 BioStar 2 Restore

Ŷ

■ MSSQL BioStar 27 PC BioStar 2

1) BioStar 2 > BioStar 2 Restore

: C:\Program Files\BioStar 2(x64)\biostar-restore.exe

2) Select File Restore



- 3) Starting Biostar services...Done 가
- 4) BioStar 2

Ş

■ BioStar 2

BioStar 2 (https://support.supremainc.com)

, , 가 ( ), 가

BioStar 2 (: BioStar 2 V1.0.233, BioLite Net)

•

BioStar 2

-

1) 가 가 ; 2) ; 3) 가 4) 가 가 가 ( ,GDPR) , 'reserved " 'undefined "

349

가

▶

가가 , , , 가가 .

가 .GPL, LGPL, MPL 가 가 https://support.supremainc.com

3 https://support.supremainc.com

### MariaDB LGPL client libraries for C and Java

https://mariadb.com/kb/en/client-libraries/

Copyright (C) 1991, 1999 Free Software Foundation, Inc.

The LGPL license

GNU LESSER GENERAL PUBLIC LICENSE

Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc. 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

#### Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a

combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a

"work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run. TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

- 2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:
  - \* a) The modified work must itself be a software library.
  - \* b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
  - \* c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
  - \* d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the

application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that

copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The

threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

\* a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to

produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

- \* b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.
- \* c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.
- \* d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.
- \* e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you

distribute.

- 7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:
  - \* a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.
  - \* b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.
- 8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.
- 9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.
- 10. Each time you redistribute the Library (or any work based on the

Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

- 12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
- 13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

#### NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO

WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. END OF TERMS AND CONDITIONS.

## MariaDB Server

https://mariadb.com/kb/en/legal-documents-mariadb-license/

Copyright (C) 1989, 1991 Free Software Foundation, Inc.

The GPL license

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.

59 Temple Place - Suite 330, Boston, MA 02111-1307, USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

======

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so

that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

#### GNU GENERAL PUBLIC LICENSE

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

O. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

 You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

- 2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:
  - a. You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.
  - b. You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.
  - c. If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate

works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

- 3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:
  - a. Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
  - b. Accompany it with a written offer, valid for at least three years, to give any third-party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
  - c. Accompany it with the information you received as to the offer

to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

- 4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.
- 5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this

License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

- 6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.
- 7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed

through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

- 8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
- 9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of

all derivatives of our free software and of promoting the sharing and reuse of software generally.

#### **NO WARRANTY**

- 11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.
- 12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

#### END OF TERMS AND CONDITIONS

How to App	ly These	Terms to	Your New	Programs	
=======	-=====	=======	-=====	:=======	-

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

ONE LINE TO GIVE THE PROGRAM'S NAME AND A BRIEF IDEA OF WHAT IT DOES.

Copyright (C) YYYY NAME OF AUTHOR

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place - Suite 330, Boston, MA 02111-1307, USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) 19YY NAME OF AUTHOR
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your

program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program

`Gnomovision' (which makes passes at compilers) written by James Hacker.

SIGNATURE OF TY COON, 1 April 1989 Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

# Node.js

https://nodejs.org/ko/

Node.js is licensed for use as follows:

.....

Copyright Node.js contributors. All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

.....

This license applies to parts of Node.js originating from the https://github.com/joyent/node repository:

.....

Copyright Joyent, Inc. and other Node contributors. All rights reserved. Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

.....

The Node.js license applies to all parts of Node.js that are not externally maintained libraries.

The externally maintained libraries used by Node.js are:

- c-ares, located at deps/cares, is licensed as follows:

.....

Copyright 1998 by the Massachusetts Institute of Technology. Copyright (C) 2007-2013 by Daniel Stenberg

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of M.I.T. not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.

M.I.T. makes no representations about the suitability of this software for any purpose. It is provided "as is" without express or implied warranty.

.....

- HTTP Parser, located at deps/http\_parser, is licensed as follows:

.....

http\_parser.c is based on src/http/ngx\_http\_parse.c from NGINX copyright Igor Sysoev.

Additional changes are licensed under the same terms as NGINX and copyright Joyent, Inc. and other Node contributors. All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in

all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

.....

- ICU, located at deps/icu, is licensed as follows:

.....

ICU License - ICU 1.8.1 and later

COPYRIGHT AND PERMISSION NOTICE

Copyright (c) 1995-2016 International Business Machines Corporation and others

All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, provided that the above copyright notice(s) and this permission notice appear in all copies of the Software and that both the above copyright notice(s) and this permission notice appear in supporting documentation.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT
OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR
HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY

SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization of the copyright holder.

All trademarks and registered trademarks mentioned herein are the property of their respective owners.

-----

Third-Party Software Licenses

This section contains third-party software notices and/or additional terms for licensed third-party software components included within ICU libraries.

1. Unicode Data Files and Software

COPYRIGHT AND PERMISSION NOTICE

Copyright © 1991-2016 Unicode, Inc. All rights reserved.

Distributed under the Terms of Use in

http://www.unicode.org/copyright.html.

Permission is hereby granted, free of charge, to any person obtaining a copy of the Unicode data files and any associated documentation (the "Data Files") or Unicode software and any associated documentation (the "Software") to deal in the Data Files or Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Data Files or Software, and to permit persons to whom the Data Files

or Software are furnished to do so, provided that

- (a) this copyright and permission notice appear with all copies of the Data Files or Software,
- (b) this copyright and permission notice appear in associated documentation, and
- (c) there is clear notice in each modified Data File or in the Software as well as in the documentation associated with the Data File(s) or Software that the data or software has been modified.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS.

IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in these Data Files or Software without prior written authorization of the copyright holder.

- 2. Chinese/Japanese Word Break Dictionary Data (cjdict.txt)
- # The Google Chrome software developed by Google is licensed under# the BSD license. Other software included in this distribution is# provided under other licenses, as set forth below.

#

- # The BSD License
- # http://opensource.org/licenses/bsd-license.php
- # Copyright (C) 2006-2008, Google Inc.

#

# All rights reserved.

```
# Redistribution and use in source and binary forms, with or without
# modification, are permitted provided that the following conditions are met:
# Redistributions of source code must retain the above copyright notice,
# this list of conditions and the following disclaimer.
# Redistributions in binary form must reproduce the above
# copyright notice, this list of conditions and the following
# disclaimer in the documentation and/or other materials provided with
# the distribution.
# Neither the name of Google Inc. nor the names of its
# contributors may be used to endorse or promote products derived from
# this software without specific prior written permission.
# THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND
# CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES,
# INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
# MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
# DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
# LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
# CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
# SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
# BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
# LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
# NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
# SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
# The word list in cjdict.txt are generated by combining three word lists
# listed below with further processing for compound word breaking. The
# frequency is generated with an iterative training against Google web
# corpora.
# * Libtabe (Chinese)
# - https://sourceforge.net/project/?group_id=1519
```

```
# - Its license terms and conditions are shown below.
# * IPADIC (Japanese)
# - http://chasen.aist-nara.ac.jp/chasen/distribution.html
# - Its license terms and conditions are shown below.
# -----COPYING.libtabe ---- BEGIN-----
# /*
# * Copyrighy (c) 1999 TaBE Project.
# * Copyright (c) 1999 Pai-Hsiang Hsiao.
# * All rights reserved.
# * Redistribution and use in source and binary forms, with or without
# * modification, are permitted provided that the following conditions
# * are met:
# * . Redistributions of source code must retain the above copyright
# * notice, this list of conditions and the following disclaimer.
# * . Redistributions in binary form must reproduce the above copyright
# * notice, this list of conditions and the following disclaimer in
* the documentation and/or other materials provided with the
# * distribution.
# * . Neither the name of the TaBE Project nor the names of its
# * contributors may be used to endorse or promote products derived
* from this software without specific prior written permission.
# *
# * THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
# * "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
# * LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
# * FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
# * REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT,
# * INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
# * (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
# * SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
# * HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
```

```
# * STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
# * ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
# * OF THE POSSIBILITY OF SUCH DAMAGE.
# */
# * Copyright (c) 1999 Computer Systems and Communication Lab,
            Institute of Information Science, Academia
              Sinica. All rights reserved.
# * Redistribution and use in source and binary forms, with or without
# * modification, are permitted provided that the following conditions
# * are met:
# * . Redistributions of source code must retain the above copyright
# * notice, this list of conditions and the following disclaimer.
# * . Redistributions in binary form must reproduce the above copyright
# * notice, this list of conditions and the following disclaimer in
# * the documentation and/or other materials provided with the
# * distribution.
\# * . Neither the name of the Computer Systems and Communication Lab
# * nor the names of its contributors may be used to endorse or
# * promote products derived from this software without specific
# * prior written permission.
# * THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
# * "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
# * LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
# * FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
# * REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT,
# * INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
# * (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
# * SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
# * HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
# * STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
# * ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
```

```
# * OF THE POSSIBILITY OF SUCH DAMAGE.
# Copyright 1996 Chih-Hao Tsai @ Beckman Institute,
   University of Illinois
# c-tsai4@uiuc.edu http://casper.beckman.uiuc.edu/~c-tsai4
# -----COPYING.libtabe----END-----
# ------COPYING.ipadic-----BEGIN-----
# Copyright 2000, 2001, 2002, 2003 Nara Institute of Science
# and Technology. All Rights Reserved.
# Use, reproduction, and distribution of this software is permitted.
# Any copy of this software, whether in its original form or modified,
# must include both the above copyright notice and the following
# paragraphs.
# Nara Institute of Science and Technology (NAIST),
# the copyright holders, disclaims all warranties with regard to this
# software, including all implied warranties of merchantability and
# fitness, in no event shall NAIST be liable for
# any special, indirect or consequential damages or any damages
# whatsoever resulting from loss of use, data or profits, whether in an
# action of contract, negligence or other tortuous action, arising out
# of or in connection with the use or performance of this software.
# A large portion of the dictionary entries
# originate from ICOT Free Software. The following conditions for ICOT
# Free Software applies to the current dictionary as well.
# Each User may also freely distribute the Program, whether in its
# original form or modified, to any third party or parties, PROVIDED
# that the provisions of Section 3 ("NO WARRANTY") will ALWAYS appear
```

```
# on, or be attached to, the Program, which is distributed substantially
# in the same form as set out herein and that such intended
# distribution, if actually made, will neither violate or otherwise
# contravene any of the laws and regulations of the countries having
# jurisdiction over the User or the intended distribution itself.
# NO WARRANTY
# The program was produced on an experimental basis in the course of the
# research and development conducted during the project and is provided
# to users as so produced on an experimental basis. Accordingly, the
# program is provided without any warranty whatsoever, whether express,
# implied, statutory or otherwise. The term "warranty" used herein
# includes, but is not limited to, any warranty of the quality,
# performance, merchantability and fitness for a particular purpose of
# the program and the nonexistence of any infringement or violation of
# any right of any third party.
# Each user of the program will agree and understand, and be deemed to
# have agreed and understood, that there is no warranty whatsoever for
# the program and, accordingly, the entire risk arising from or
# otherwise connected with the program is assumed by the user.
# Therefore, neither ICOT, the copyright holder, or any other
# organization that participated in or was otherwise related to the
# development of the program and their respective officials, directors,
# officers and other employees shall be held liable for any and all
# damages, including, without limitation, general, special, incidental
# and consequential damages, arising out of or otherwise in connection
# with the use or inability to use the program or any product, material
# or result produced or otherwise obtained by using the program,
# regardless of whether they have been advised of, or otherwise had
# knowledge of, the possibility of such damages at any time during the
# project or thereafter. Each user will be deemed to have agreed to the
# foregoing by his or her commencement of use of the program. The term
# "use" as used herein includes, but is not limited to, the use,
```

```
# modification, copying and distribution of the program and the
# production of secondary products from the program.
# In the case where the program, whether in its original form or
# modified, was distributed or delivered to or received by a user from
# any person, organization or entity other than ICOT, unless it makes or
# grants independently of ICOT any specific warranty to the user in
# writing, such person, organization or entity, will also be exempted
# from and not be held liable to the user for any such damages as noted
# above as far as the program is concerned.
# ------COPYING.ipadic-----END------
3. Lao Word Break Dictionary Data (laodict.txt)
# Copyright (c) 2013 International Business Machines Corporation
# and others. All Rights Reserved.
#
# Project: http://code.google.com/p/lao-dictionary/
# Dictionary: http://lao-dictionary.googlecode.com/git/Lao-Dictionary.txt
# License: http://lao-dictionary.googlecode.com/git/Lao-Dictionary-LICENSE.txt
        (copied below)
# This file is derived from the above dictionary, with slight
# modifications.
# ------
# Copyright (C) 2013 Brian Eugene Wilson, Robert Martin Campbell.
# All rights reserved.
# Redistribution and use in source and binary forms, with or without
# modification,
# are permitted provided that the following conditions are met:
# Redistributions of source code must retain the above copyright notice, this
# list of conditions and the following disclaimer. Redistributions in
```

```
# binary form must reproduce the above copyright notice, this list of
# conditions and the following disclaimer in the documentation and/or
# other materials provided with the distribution.
# THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
# "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
# LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
# FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
# COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT,
# INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
# (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
# SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
# HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
# STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
# ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
# OF THE POSSIBILITY OF SUCH DAMAGE.
# ------
4. Burmese Word Break Dictionary Data (burmesedict.txt)
# Copyright (c) 2014 International Business Machines Corporation
# and others. All Rights Reserved.
# This list is part of a project hosted at:
# github.com/kanyawtech/myanmar-karen-word-lists
# Copyright (c) 2013, LeRoy Benjamin Sharon
# All rights reserved.
# Redistribution and use in source and binary forms, with or without
# modification, are permitted provided that the following conditions
# are met: Redistributions of source code must retain the above
# copyright notice, this list of conditions and the following
# disclaimer. Redistributions in binary form must reproduce the
```

# above copyright notice, this list of conditions and the following
# disclaimer in the documentation and/or other materials provided
# with the distribution.
#
# Neither the name Myanmar Karen Word Lists, nor the names of its
# contributors may be used to endorse or promote products derived
# from this software without specific prior written permission.
#
# THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND
# CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES,
# INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
# MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
# DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS
# BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
# EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED
# TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,

# DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON

# TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF

# ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR

# THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF

# ------

#### 5. Time Zone Database

# SUCH DAMAGE.

ICU uses the public domain data and code derived from Time Zone Database for its time zone support. The ownership of the TZ database is explained in BCP 175: Procedure for Maintaining the Time Zone Database section 7.

### #7. Database Ownership

#

- # The TZ database itself is not an IETF Contribution or an IETF
- # document. Rather it is a pre-existing and regularly updated work
- # that is in the public domain, and is intended to remain in the
- # public domain. Therefore, BCPs 78 [RFC5378] and 79 [RFC3979] do

- # not apply to the TZ Database or contributions that individuals make
- # to it. Should any claims be made and substantiated against the TZ
- # Database, the organization that is providing the IANA
- # Considerations defined in this RFC, under the memorandum of
- # understanding with the IETF, currently ICANN, may act in accordance
- # with all competent court orders. No ownership claims will be made
- # by ICANN or the IETF Trust on the database or the code. Any person
- # making a contribution to the database or code waives all rights to
- # future claims in that contribution or in the TZ Database.

.....

- libuv, located at deps/uv, is licensed as follows:

.....

libuv is part of the Node project: http://nodejs.org/ libuv may be distributed alone under Node's license:

====

Copyright Joyent, Inc. and other Node contributors. All rights reserved. Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

====

This license applies to all parts of libuv that are not externally maintained libraries.

The externally maintained libraries used by libuv are:

- tree.h (from FreeBSD), copyright Niels Provos. Two clause BSD license.
- inet\_pton and inet\_ntop implementations, contained in src/inet.c, are copyright the Internet Systems Consortium, Inc., and licensed under the ISC license.
- stdint-msvc2008.h (from msinttypes), copyright Alexander Chemeris. Three clause BSD license.
- pthread-fixes.h, pthread-fixes.c, copyright Google Inc. and Sony Mobile Communications AB. Three clause BSD license.
- android-ifaddrs.h, android-ifaddrs.c, copyright Berkeley Software Design Inc, Kenneth MacKay and Emergya (Cloud4all, FP7/2007-2013, grant agreement n° 289016). Three clause BSD license.

.....

- OpenSSL, located at deps/openssl, is licensed as follows:

Copyright (c) 1998-2016 The OpenSSL Project. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

- 2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- 3. All advertising materials mentioning features or use of this software must display the following acknowledgment:"This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (http://www.openssl.org/)"
- 4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to endorse or promote products derived from this software without prior written permission. For written permission, please contact openssl-core@openssl.org.
- 5. Products derived from this software may not be called "OpenSSL" nor may "OpenSSL" appear in their names without prior written permission of the OpenSSL Project.
- 6. Redistributions of any form whatsoever must retain the following acknowledgment:
- "This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/)"

THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS'' AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

-----

This product includes cryptographic software written by Eric Young (eay@cryptsoft.com). This product includes software written by Tim Hudson (tjh@cryptsoft.com).

....

- Punycode.js, located at lib/punycode.js, is licensed as follows:

Copyright Mathias Bynens <a href="https://mathiasbynens.be/">https://mathiasbynens.be/">

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

.....

- V8, located at deps/v8, is licensed as follows:

.....

This license applies to all parts of V8 that are not externally maintained libraries. The externally maintained libraries used by V8 are:

- PCRE test suite, located in test/mjsunit/third\_party/regexp-pcre/regexp-pcre.js. This is based on the test suite from PCRE-7.3, which is copyrighted by the University of Cambridge and Google, Inc. The copyright notice and license are embedded in regexp-pcre.js.
- Layout tests, located in test/mjsunit/third\_party/object-keys. These are based on layout tests from webkit.org which are copyrighted by Apple Computer, Inc. and released under a 3-clause BSD license.
- Strongtalk assembler, the basis of the files assembler-arm-inl.h, assembler-arm.cc, assembler-arm.h, assembler-ia32-inl.h, assembler-ia32.cc, assembler-ia32.h, assembler-x64-inl.h, assembler-x64.cc, assembler-x64.h, assembler-mips-inl.h, assembler-mips.cc, assembler-mips.h, assembler.cc and assembler.h. This code is copyrighted by Sun Microsystems Inc. and released under a 3-clause BSD license.
- Valgrind client API header, located at third\_party/valgrind/valgrind.h This is release under the BSD license.

These libraries have their own licenses; we recommend you read them, as their terms may differ from the terms below.

Further license information can be found in LICENSE files located in sub-directories.

Copyright 2014, the V8 project authors. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- \* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- \* Redistributions in binary form must reproduce the above

copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

\* Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

- zlib, located at deps/zlib, is licensed as follows:

....

zlib.h -- interface of the 'zlib' general purpose compression library version 1.2.8, April 28th, 2013

Copyright (C) 1995-2013 Jean-loup Gailly and Mark Adler

This software is provided 'as-is', without any express or implied warranty. In no event will the authors be held liable for any damages arising from the use of this software.

Permission is granted to anyone to use this software for any purpose, including commercial applications, and to alter it and redistribute it freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not

claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product documentation would be appreciated but is not required.

- 2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.
- 3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly Mark Adler

jloup@gzip.org madler@alumni.caltech.edu

.....

- npm, located at deps/npm, is licensed as follows:

....

The npm application

Copyright (c) npm, Inc. and Contributors

Licensed on the terms of The Artistic License 2.0

Node package dependencies of the  $\ensuremath{\mathsf{npm}}$  application

Copyright (c) their respective copyright owners

Licensed on their respective license terms

The npm public registry at https://registry.npmjs.org and the npm website at https://www.npmjs.com

Operated by npm, Inc.

Use governed by terms published on https://www.npmjs.com

"Node.js"

Trademark Joyent, Inc., https://joyent.com

Neither npm nor npm, Inc. are affiliated with Joyent, Inc.

The Node.js application

Project of Node Foundation, https://nodejs.org

The npm Logo

Copyright (c) Mathias Pettersson and Brian Hammond

"Gubblebum Blocky" typeface

Copyright (c) Tjarda Koster, https://jelloween.deviantart.com Used with permission

-----

The Artistic License 2.0

Copyright (c) 2000-2006, The Perl Foundation.

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

#### Preamble

This license establishes the terms under which a given free software Package may be copied, modified, distributed, and/or redistributed. The intent is that the Copyright Holder maintains some artistic control over the development of that Package while still keeping the Package available as open source and free software.

You are always permitted to make arrangements wholly outside of this license directly with the Copyright Holder of a given Package. If the terms of this license do not permit the full use that you propose to make of the Package, you should contact the Copyright Holder and seek a different licensing arrangement.

#### **Definitions**

"Copyright Holder" means the individual(s) or organization(s) named in the copyright notice for the entire Package.

"Contributor" means any party that has contributed code or other material to the Package, in accordance with the Copyright Holder's procedures.

"You" and "your" means any person who would like to copy, distribute, or modify the Package.

"Package" means the collection of files distributed by the Copyright Holder, and derivatives of that collection and/or of those files. A given Package may consist of either the Standard Version, or a Modified Version.

"Distribute" means providing a copy of the Package or making it accessible to anyone else, or in the case of a company or organization, to others outside of your company or organization.

"Distributor Fee" means any fee that you charge for Distributing this Package or providing support for this Package to another party. It does not mean licensing fees.

"Standard Version" refers to the Package if it has not been modified, or has been modified only in ways explicitly requested by the Copyright Holder.

"Modified Version" means the Package, if it has been changed, and such changes were not explicitly requested by the Copyright Holder.

"Original License" means this Artistic License as Distributed with the Standard Version of the Package, in its current version or as it may be modified by The Perl Foundation in the future.

"Source" form means the source code, documentation source, and configuration files for the Package.

"Compiled" form means the compiled bytecode, object code, binary, or any other form resulting from mechanical transformation or translation of the Source form.

Permission for Use and Modification Without Distribution

(1) You are permitted to use the Standard Version and create and use Modified Versions for any purpose without restriction, provided that you do not Distribute the Modified Version.

Permissions for Redistribution of the Standard Version

- (2) You may Distribute verbatim copies of the Source form of the Standard Version of this Package in any medium without restriction, either gratis or for a Distributor Fee, provided that you duplicate all of the original copyright notices and associated disclaimers. At your discretion, such verbatim copies may or may not include a Compiled form of the Package.
- (3) You may apply any bug fixes, portability changes, and other modifications made available from the Copyright Holder. The resulting Package will still be considered the Standard Version, and as such will be subject to the Original License.

Distribution of Modified Versions of the Package as Source

- (4) You may Distribute your Modified Version as Source (either gratis or for a Distributor Fee, and with or without a Compiled form of the Modified Version) provided that you clearly document how it differs from the Standard Version, including, but not limited to, documenting any non-standard features, executables, or modules, and provided that you do at least ONE of the following:
  - (a) make the Modified Version available to the Copyright Holder of the Standard Version, under the Original License, so that the Copyright Holder may include your modifications in the Standard Version.
  - (b) ensure that installation of your Modified Version does not prevent the user installing or running the Standard Version. In addition, the Modified Version must bear a name that is different

from the name of the Standard Version.

- (c) allow anyone who receives a copy of the Modified Version to make the Source form of the Modified Version available to others under
  - (i) the Original License or
  - (ii) a license that permits the licensee to freely copy, modify and redistribute the Modified Version using the same licensing terms that apply to the copy that the licensee received, and requires that the Source form of the Modified Version, and of any works derived from it, be made freely available in that license fees are prohibited but Distributor Fees are allowed.

Distribution of Compiled Forms of the Standard Version or Modified Versions without the Source

- (5) You may Distribute Compiled forms of the Standard Version without the Source, provided that you include complete instructions on how to get the Source of the Standard Version. Such instructions must be valid at the time of your distribution. If these instructions, at any time while you are carrying out such distribution, become invalid, you must provide new instructions on demand or cease further distribution. If you provide valid instructions or cease distribution within thirty days after you become aware that the instructions are invalid, then you do not forfeit any of your rights under this license.
- (6) You may Distribute a Modified Version in Compiled form without the Source, provided that you comply with Section 4 with respect to the Source of the Modified Version.

Aggregating or Linking the Package

(7) You may aggregate the Package (either the Standard Version or

Modified Version) with other packages and Distribute the resulting aggregation provided that you do not charge a licensing fee for the Package. Distributor Fees are permitted, and licensing fees for other components in the aggregation are permitted. The terms of this license apply to the use and Distribution of the Standard or Modified Versions as included in the aggregation.

(8) You are permitted to link Modified and Standard Versions with other works, to embed the Package in a larger work of your own, or to build stand-alone binary or bytecode versions of applications that include the Package, and Distribute the result without restriction, provided the result does not expose a direct interface to the Package.

Items That are Not Considered Part of a Modified Version

(9) Works (including, but not limited to, modules and scripts) that merely extend or make use of the Package, do not, by themselves, cause the Package to be a Modified Version. In addition, such works are not considered parts of the Package itself, and are not subject to the terms of this license.

#### General Provisions

- (10) Any use, modification, and distribution of the Standard or Modified Versions is governed by this Artistic License. By using, modifying or distributing the Package, you accept this license. Do not use, modify, or distribute the Package, if you do not accept this license.
- (11) If your Modified Version has been derived from a Modified Version made by someone other than you, you are nevertheless required to ensure that your Modified Version complies with the requirements of this license.
- (12) This license does not grant you the right to use any trademark, service mark, tradename, or logo of the Copyright Holder.

(13) This license includes the non-exclusive, worldwide, free-of-charge patent license to make, have made, use, offer to sell, sell, import and otherwise transfer the Package with respect to any patent claims licensable by the Copyright Holder that are necessarily infringed by the Package. If you institute patent litigation (including a cross-claim or counterclaim) against any party alleging that the Package constitutes direct or contributory patent infringement, then this Artistic License to you shall terminate on the date that such litigation is filed.

### (14) Disclaimer of Warranty:

THE PACKAGE IS PROVIDED BY THE COPYRIGHT HOLDER AND CONTRIBUTORS "AS IS' AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES. THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT ARE DISCLAIMED TO THE EXTENT PERMITTED BY YOUR LOCAL LAW. UNLESS REQUIRED BY LAW, NO COPYRIGHT HOLDER OR CONTRIBUTOR WILL BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING IN ANY WAY OUT OF THE USE OF THE PACKAGE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

....

- GYP, located at tools/gyp, is licensed as follows:

....

Copyright (c) 2009 Google Inc. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- \* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- \* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer

in the documentation and/or other materials provided with the distribution.

\* Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

- marked, located at tools/doc/node\_modules/marked, is licensed as follows:

Copyright (c) 2011-2014, Christopher Jeffrey (https://github.com/chjj/)

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE

AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

.....

- cpplint.py, located at tools/cpplint.py, is licensed as follows:

Copyright (c) 2009 Google Inc. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- \* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- \* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- \* Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

.....

- ESLint, located at tools/eslint, is licensed as follows:

.....

**ESLint** 

Copyright jQuery Foundation and other contributors, https://jquery.org/

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

.....

- gtest, located at deps/gtest, is licensed as follows:

....

Copyright 2008, Google Inc.

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

\* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

\* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

\* Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

- node-weak, located at test/gc/node\_modules/weak, is licensed as follows:

Copyright (c) 2011, Ben Noordhuis <info@bnoordhuis.nl>

Permission to use, copy, modify, and/or distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

.....

## **Boost**

## https://www.boost.org/

Copyright Joe Coder 2004 - 2006.

Distributed under the Boost Software License, Version 1.0.

Boost Software License - Version 1.0 - August 17th, 2003

Permission is hereby granted, free of charge, to any person or organization obtaining a copy of the software and accompanying documentation covered by this license (the "Software") to use, reproduce, display, distribute, execute, and transmit the Software, and to prepare derivative works of the Software, and to permit third-parties to whom the Software is furnished to do so, all subject to the following:

The copyright notices in the Software and this entire statement, including the above license grant, this restriction and the following disclaimer, must be included in all copies of the Software, in whole or in part, and all derivative works of the Software, unless such copies or derivative works are solely in the form of machine-executable object code generated by a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# glog

## https://github.com/google/glog

Copyright (c) 2008, Google Inc. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- \* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- \* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- \* Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

  THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# gtest

### https://github.com/google/googletest

Copyright 2008, Google Inc. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- \* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- \* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- \* Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from

this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

## Iconv

## http://www.gnu.org/licenses/lgpl.html

Copyright © 2007 Free Software Foundation, Inc. https://fsf.org/ GNU LESSER GENERAL PUBLIC LICENSE

Version 3, 29 June 2007

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

This version of the GNU Lesser General Public License incorporates the terms and conditions of version 3 of the GNU General Public License, supplemented by the additional permissions listed below.

0. Additional Definitions.

As used herein, "this License" refers to version 3 of the GNU Lesser General Public License, and the "GNU GPL" refers to version 3 of the GNU General Public License.

"The Library" refers to a covered work governed by this License, other than an Application or a Combined Work as defined below.

An "Application" is any work that makes use of an interface provided by the Library, but which is not otherwise based on the Library. Defining a subclass of a class defined by the Library is deemed a mode of using an interface provided by the Library.

A "Combined Work" is a work produced by combining or linking an Application with the Library. The particular version of the Library with which the Combined Work was made is also called the "Linked Version".

The "Minimal Corresponding Source" for a Combined Work means the Corresponding Source for the Combined Work, excluding any source code for portions of the Combined Work that, considered in isolation, are based on the Application, and not on the Linked Version.

The "Corresponding Application Code" for a Combined Work means the object code and/or source code for the Application, including any data and utility programs needed for reproducing the Combined Work from the Application, but excluding the System Libraries of the Combined Work.

1. Exception to Section 3 of the GNU GPL.

You may convey a covered work under sections 3 and 4 of this License without being bound by section 3 of the GNU GPL.

2. Conveying Modified Versions.

If you modify a copy of the Library, and, in your modifications, a facility refers to a function or data to be supplied by an Application that uses the facility (other than as an argument passed when the facility is invoked), then you may convey a copy of the modified version:

- a) under this License, provided that you make a good faith effort to ensure that, in the event an Application does not supply the function or data, the facility still operates, and performs whatever part of its purpose remains meaningful, or
- b) under the GNU GPL, with none of the additional permissions of this License applicable to that copy.
- 3. Object Code Incorporating Material from Library Header Files.

The object code form of an Application may incorporate material from a header file that is part of the Library. You may convey such object code under terms of your choice, provided that, if the incorporated material is not limited to numerical parameters, data structure layouts and accessors, or small macros, inline functions and templates (ten or fewer lines in length), you do both of the following:

- a) Give prominent notice with each copy of the object code that the Library is used in it and that the Library and its use are covered by this License.
- b) Accompany the object code with a copy of the GNU GPL and this license document.
- 4. Combined Works.

You may convey a Combined Work under terms of your choice that, taken together, effectively do not restrict modification of the portions of the Library contained in the Combined Work and reverse engineering for debugging such modifications, if you also do each of the following:

a) Give prominent notice with each copy of the Combined Work that the Library is used in it and that the Library and its use are covered by this License.

- b) Accompany the Combined Work with a copy of the GNU GPL and this license document.
- c) For a Combined Work that displays copyright notices during execution, include the copyright notice for the Library among these notices, as well as a reference directing the user to the copies of

the GNU GPL and this license document.

- d) Do one of the following:
- 0) Convey the Minimal Corresponding Source under the terms of this License, and the Corresponding Application Code in a form suitable for, and under terms that permit, the user to recombine or relink the Application with a modified version of the Linked Version to produce a modified Combined Work, in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.
- 1) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (a) uses at run time a copy of the Library already present on the user's computer system, and (b) will operate properly with a modified version of the Library that is interface-compatible with the Linked Version.
- e) Provide Installation Information, but only if you would otherwise be required to provide such information under section 6 of the GNU GPL, and only to the extent that such information is necessary to install and execute a modified version of the Combined Work produced by recombining or relinking the Application with a modified version of the Linked Version. (If you use option 4d0, the Installation Information must accompany the Minimal Corresponding Source and Corresponding Application Code. If you use option 4d1, you must provide the Installation Information in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.)

### 5. Combined Libraries.

You may place library facilities that are a work based on the Library side by side in a single library together with other library facilities that are not Applications and are not covered by this License, and convey such a combined library under terms of your choice, if you do both of the following:

- a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities, conveyed under the terms of this License.
- b) Give prominent notice with the combined library that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.
- 6. Revised Versions of the GNU Lesser General Public License.

The Free Software Foundation may publish revised and/or new versions of the GNU Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library as you received it specifies that a certain numbered version of the GNU Lesser General Public License " or any later version" applies to it, you have the option of following the terms and conditions either of that published version or of any later version published by the Free Software Foundation. If the Library as you received it does not specify a version number of the GNU Lesser General Public License, you may

choose any version of the GNU Lesser General Public License ever published by the Free Software Foundation.

If the Library as you received it specifies that a proxy can decide whether future versions of the GNU Lesser General Public License shall apply, that proxy's public statement of acceptance of any version is permanent authorization for you to choose that version for the Library.

## libfcgi

## https://directory.fsf.org/wiki/Libfcgi

Copyright © 1996 Open Market, Inc.

This FastCGI application library source and object code (the "Software") and its documentation (the "Documentation") are copyrighted by Open Market, Inc ("Open Market"). The following terms apply to all files associated with the Software and Documentation unless explicitly disclaimed in individual files.

Open Market permits you to use, copy, modify, distribute, and license this Software and the Documentation for any purpose, provided that

existing copyright notices are retained in all copies and that this notice is included verbatim in any distributions. No written agreement, license, or royalty fee is required for any of the authorized uses. Modifications to this Software and Documentation may be copyrighted by their authors and need not follow the licensing terms described here. If modifications to this Software and Documentation have new licensing terms, the new terms must be clearly indicated on the first page of each file where they apply. OPEN MARKET MAKES NO EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE SOFTWARE OR THE DOCUMENTATION, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL OPEN MARKET BE LIABLE TO YOU OR ANY THIRD PARTY FOR ANY DAMAGES ARISING FROM OR RELATING TO THIS SOFTWARE OR THE DOCUMENTATION, INCLUDING, WITHOUT LIMITATION, ANY INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES OR SIMILAR DAMAGES, INCLUDING LOST PROFITS OR LOST DATA, EVEN IF OPEN MARKET HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE SOFTWARE AND DOCUMENTATION ARE PROVIDED "AS IS". OPEN MARKET HAS NO LIABILITY IN CONTRACT, TORT, NEGLIGENCE OR OTHERWISE ARISING OUT OF THIS SOFTWARE OR THE DOCUMENTATION.

# libjpeg

## http://libjpeg.sourceforge.net/

This package contains C software to implement JPEG image encoding, decoding, and transcoding. JPEG is a standardized compression method for full-color and gray-scale images.

The distributed programs provide conversion between JPEG "JFIF" format and image files in PBMPLUS PPM/PGM, GIF, BMP, and Targa file formats.

The core compression and decompression library can easily be reused in other programs, such as image viewers. The package is highly portable C code;

we have tested it on many machines ranging from PCs to Crays.

We are releasing this software for both noncommercial and commercial use.

Companies are welcome to use it as the basis for JPEG-related products.

We do not ask a royalty, although we do ask for an acknowledgement in product literature (see the README file in the distribution for details).

We hope to make this software industrial-quality --- although, as with anything that's free, we offer no warranty and accept no liability.

For more information, contact jpeg-info@jpegclub.org.

# microzip

### http://www.gnu.org/licenses/lgpl-3.0.html

Copyright © 2007 Free Software Foundation, Inc. <a href="https://fsf.org/">https://fsf.org/</a>

GNU LESSER GENERAL PUBLIC LICENSE

Version 3, 29 June 2007

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

This version of the GNU Lesser General Public License incorporates the terms and conditions of version 3 of the GNU General Public License, supplemented by the additional permissions listed below.

0. Additional Definitions.

As used herein, "this License" refers to version 3 of the GNU Lesser General Public License, and the "GNU GPL" refers to version 3 of the GNU General Public License.

"The Library" refers to a covered work governed by this License, other than an Application or a

Combined Work as defined below.

An "Application" is any work that makes use of an interface provided by the Library, but which is not otherwise based on the Library. Defining a subclass of a class defined by the Library is deemed a mode of using an interface provided by the Library.

A "Combined Work" is a work produced by combining or linking an Application with the Library. The particular version of the Library with which the Combined Work was made is also called the "Linked Version".

The "Minimal Corresponding Source" for a Combined Work means the Corresponding Source for the Combined Work, excluding any source code for portions of the Combined Work that, considered in isolation, are based on the Application, and not on the Linked Version.

The "Corresponding Application Code" for a Combined Work means the object code and/or source code for the Application, including any data and utility programs needed for reproducing the Combined Work from the Application, but excluding the System Libraries of the Combined Work.

1. Exception to Section 3 of the GNU GPL.

You may convey a covered work under sections 3 and 4 of this License without being bound by section 3 of the GNU GPL.

2. Conveying Modified Versions.

If you modify a copy of the Library, and, in your modifications, a facility refers to a function or data to be supplied by an Application that uses the facility (other than as an argument passed when the facility is invoked), then you may convey a copy of the modified version:

- a) under this License, provided that you make a good faith effort to ensure that, in the event an Application does not supply the function or data, the facility still operates, and performs whatever part of its purpose remains meaningful, or
- b) under the GNU GPL, with none of the additional permissions of this License applicable to that copy.
- 3. Object Code Incorporating Material from Library Header Files.

The object code form of an Application may incorporate material from a header file that is part of the Library. You may convey such object code under terms of your choice, provided that, if the incorporated material is not limited to numerical parameters, data structure layouts and accessors, or small macros, inline functions and templates (ten or fewer lines in length), you do both of the following:

- a) Give prominent notice with each copy of the object code that the Library is used in it and that the Library and its use are covered by this License.
- b) Accompany the object code with a copy of the GNU GPL and this license document.
- 4. Combined Works.

You may convey a Combined Work under terms of your choice that, taken together, effectively do

not restrict modification of the portions of the Library contained in the Combined Work and reverse engineering for debugging such modifications, if you also do each of the following:

a) Give prominent notice with each copy of the Combined Work that the Library is used in it and that the Library and its use are covered by this License.

- b) Accompany the Combined Work with a copy of the GNU GPL and this license document.
- c) For a Combined Work that displays copyright notices during execution, include the copyright notice for the Library among these notices, as well as a reference directing the user to the copies of the GNU GPL and this license document.
- d) Do one of the following:
- 0) Convey the Minimal Corresponding Source under the terms of this License, and the Corresponding Application Code in a form suitable for, and under terms that permit, the user to recombine or relink the Application with a modified version of the Linked Version to produce a modified Combined Work, in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.
- 1) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (a) uses at run time a copy of the Library already present on the user's computer system, and (b) will operate properly with a modified version of the Library that is interface-compatible with the Linked Version.
- e) Provide Installation Information, but only if you would otherwise be required to provide such information under section 6 of the GNU GPL, and only to the extent that such information is necessary to install and execute a modified version of the Combined Work produced by recombining or relinking the Application with a modified version of the Linked Version. (If you use option 4d0, the Installation Information must accompany the Minimal Corresponding Source and Corresponding Application Code. If you use option 4d1, you must provide the Installation Information in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.)

#### 5. Combined Libraries.

You may place library facilities that are a work based on the Library side by side in a single library together with other library facilities that are not Applications and are not covered by this License, and convey such a combined library under terms of your choice, if you do both of the following:

- a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities, conveyed under the terms of this License.
- b) Give prominent notice with the combined library that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.
- 6. Revised Versions of the GNU Lesser General Public License.

The Free Software Foundation may publish revised and/or new versions of the GNU Lesser General

Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library as you received it specifies that a certain numbered version of the GNU Lesser General Public License " or any later version" applies to it, you have the option of following the terms and conditions either of that published version or of any later version published by the Free Software Foundation. If the Library as you received it does not specify a version number of the GNU Lesser General Public License, you may choose any version of the GNU Lesser General Public License ever published by the Free Software Foundation.

If the Library as you received it specifies that a proxy can decide whether future versions of the GNU Lesser General Public License shall apply, that proxy's public statement of acceptance of any version is permanent authorization for you to choose that version for the Library.

# minizip

## https://github.com/danieleggert/minizip

MiniZip - Copyright (c) 1998-2010 - by Gilles Vollant - version 1.1 64 bits from Mathias Svensson Credits

Gilles Vollant - Original MiniZip author

Even Rouault - ZIP64 unzip Support

Daniel Borca - BZip Compression method support in unzip

Mathias Svensson - ZIP64 zip support

Mathias Svensson - BZip Compression method support in zip

License

-----

Condition of use and distribution are the same than zlib:

This software is provided 'as-is', without any express or implied warranty. In no event will the authors be held liable for any damages arising from the use of this software.

Permission is granted to anyone to use this software for any purpose, including commercial applications, and to alter it and redistribute it freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product documentation would be

appreciated but is not required.

- 2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.
- 3. This notice may not be removed or altered from any source distribution.

# nginx

## https://www.nginx.com/

Copyright (C) 2002-2014 Igor Sysoev

Copyright (C) 2011-2014 Nginx, Inc.

All rights reserved.

- \* Redistribution and use in source and binary forms, with or without
- \* modification, are permitted provided that the following conditions
- \* are met:
- \* 1. Redistributions of source code must retain the above copyright
- \* notice, this list of conditions and the following disclaimer.
- \* 2. Redistributions in binary form must reproduce the above copyright
- \* notice, this list of conditions and the following disclaimer in the
- \* documentation and/or other materials provided with the distribution.

\*

- \* THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS ` ` AS IS'' AND
- \* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
- \* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
- \* ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
- \* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
- \* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
- \* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
- \* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
- \* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
- \* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
- \* SUCH DAMAGE.

\*/

# OpenSSL

### https://www.openssl.org/

Copyright (c) 1998-2011 The OpenSSL Project

Copyright (c) 1995-1998 Eric Young

The OpenSSL toolkit stays under a dual license, i.e. both the conditions of the OpenSSL License and the original SSLeay license apply to the toolkit. See below for the actual license texts. Actually both licenses are BSD-style Open Source licenses. In case of any license issues related to OpenSSL please contact openssl-core@openssl.org.

Copyright (c) 1998-2011 The OpenSSL Project. All rights reserved.

OpenSSL License

- \* Copyright (c) 1998-2011 The OpenSSL Project. All rights reserved.
- \* Redistribution and use in source and binary forms, with or without
- \* modification, are permitted provided that the following conditions
- \* are met:
- \* 1. Redistributions of source code must retain the above copyright
- \* notice, this list of conditions and the following disclaimer.
- \* 2. Redistributions in binary form must reproduce the above copyright
- \* notice, this list of conditions and the following disclaimer in
- \* the documentation and/or other materials provided with the
- \* distribution.
- \* 3. All advertising materials mentioning features or use of this
- \* software must display the following acknowledgment:
- \* "This product includes software developed by the OpenSSL Project
- \* for use in the OpenSSL Toolkit. (http://www.openssl.org/)"
- \* 4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to
- \* endorse or promote products derived from this software without
- \* prior written permission. For written permission, please contact
- \* openssl-core@openssl.org.
- \* 5. Products derived from this software may not be called "OpenSSL"
- \* nor may "OpenSSL" appear in their names without prior written
- \* permission of the OpenSSL Project.
- \* 6. Redistributions of any form whatsoever must retain the following
- \* acknowledgment:
- \* "This product includes software developed by the OpenSSL Project
- \* for use in the OpenSSL Toolkit (http://www.openssl.org/)"

\*

- \* THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS'' AND ANY
- \* EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
- \* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
- \* PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR
- \* ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
- \* SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
- \* NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
- \* LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
- \* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
- \* STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
- \* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
- \* OF THE POSSIBILITY OF SUCH DAMAGE.
- \* \_\_\_\_\_\_

\*

- \* This product includes cryptographic software written by Eric Young
- \* (eay@cryptsoft.com). This product includes software written by Tim
- \* Hudson (tjh@cryptsoft.com).

### Original SSLeay License

/\* Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com)

- \* All rights reserved.
- \* This package is an SSL implementation written
- \* by Eric Young (eay@cryptsoft.com).
- \* The implementation was written so as to conform with Netscapes SSL.

\*

- \* This library is free for commercial and non-commercial use as long as
- \* the following conditions are aheared to. The following conditions
- \* apply to all code found in this distribution, be it the RC4, RSA,
- \* Ihash, DES, etc., code; not just the SSL code. The SSL documentation
- \* included with this distribution is covered by the same copyright terms
- \* except that the holder is Tim Hudson (tjh@cryptsoft.com).
- \* Copyright remains Eric Young's, and as such any Copyright notices in
- \* the code are not to be removed.
- \* If this package is used in a product, Eric Young should be given attribution
- \* as the author of the parts of the library used.

- \* This can be in the form of a textual message at program startup or
- \* in documentation (online or textual) provided with the package.
- \* Redistribution and use in source and binary forms, with or without
- \* modification, are permitted provided that the following conditions
- \* are met:
- \* 1. Redistributions of source code must retain the copyright
- \* notice, this list of conditions and the following disclaimer.
- \* 2. Redistributions in binary form must reproduce the above copyright
- \* notice, this list of conditions and the following disclaimer in the
- \* documentation and/or other materials provided with the distribution.
- \* 3. All advertising materials mentioning features or use of this software
- \* must display the following acknowledgement:
- \* "This product includes cryptographic software written by
- \* Eric Young (eay@cryptsoft.com)"
- \* The word 'cryptographic' can be left out if the rouines from the library
- \* being used are not cryptographic related :-).
- \* 4. If you include any Windows specific code (or a derivative thereof) from
- \* the apps directory (application code) you must include an acknowledgement:
- \* "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"
- \* THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS'' AND
- \* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
- \* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
- \* ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
- \* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
- \* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
- \* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
- \* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
- \* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
- \* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
- \* SUCH DAMAGE.

\* The licence and distribution terms for any publically available version or

- \* derivative of this code cannot be changed. i.e. this code cannot simply be
- \* copied and put under another distribution licence
- \* [including the GNU Public Licence.]

417

\*/

## **PCRE**

## https://www.pcre.org/

PCRE LICENSE

PCRE is a library of functions to support regular expressions whose syntax and semantics are as close as possible to those of the Perl 5 language.

Release 8 of PCRE is distributed under the terms of the "BSD" licence, as specified below. The documentation for PCRE, supplied in the "doc" directory, is distributed under the same terms as the software itself.

The basic library functions are written in C and are freestanding. Also included in the distribution is a set of C++ wrapper functions, and a just-in-time compiler that can be used to optimize pattern matching. These are both optional features that can be omitted when the library is built.

#### THE BASIC LIBRARY FUNCTIONS

-----

Written by: Philip Hazel

Email local part: ph10

Email domain: cam.ac.uk

University of Cambridge Computing Service,

Cambridge, England.

Copyright (c) 1997-2014 University of Cambridge

All rights reserved.

PCRE JUST-IN-TIME COMPILATION SUPPORT

-----

Written by: Zoltan Herczeg

Email local part: hzmester

Emain domain: freemail.hu

Copyright(c) 2010-2014 Zoltan Herczeg

All rights reserved.

STACK-LESS JUST-IN-TIME COMPILER

-----

Written by: Zoltan Herczeg

Email local part: hzmester

Emain domain: freemail.hu

Copyright(c) 2009-2014 Zoltan Herczeg

All rights reserved.

THE C++ WRAPPER FUNCTIONS

-----

Contributed by: Google Inc.

Copyright (c) 2007-2012, Google Inc.

All rights reserved.

THE "BSD" LICENCE

-----

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- \* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- \* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- \* Neither the name of the University of Cambridge nor the name of Google Inc. nor the names of their contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"

AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

End

# Sqlcipher

### https://www.zetetic.net/sqlcipher/

Copyright (c) 2008, ZETETIC LLC All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- \* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- \* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- \* Neither the name of the ZETETIC LLC nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY ZETETIC LLC "AS IS" AND ANY
EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL ZETETIC LLC BE LIABLE FOR ANY
DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT

(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

## sqlite

## https://www.sqlite.org/index.html

Anyone is free to copy, modify, publish, use, compile, sell, or distribute the original SQLite code, either in source code form or as a compiled binary, for any purpose, commercial or non-commercial, and by any means.

# TiddlyWiki

## https://tiddlywiki.com/

Copyright (c) UnaMesa Association 2004-2007

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILIT

# Websocketpp

### https://www.zaphoyd.com/projects/websocketpp/

WebSocket++ is an open source (BSD license)

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO,

THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.

IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

## zlib

### https://zlib.net/zlib\_license.html

(C) 1995-2013 Jean-loup Gailly and Mark Adler

This software is provided 'as-is', without any express or implied warranty. In no event will the authors be held liable for any damages arising from the use of this software.

Permission is granted to anyone to use this software for any purpose, including commercial applications, and to alter it and redistribute it freely, subject to the following restrictions:

- 1. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product documentation would be appreciated but is not required.
- 2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.
- 3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly

Mark Adler

jloup@gzip.org

madler@alumni.caltech.edu

## SII

## http://www.sil.org

Copyright (c) 1994-2008, SIL International (http://www.sil.org/).

This Font Software is licensed under the SIL Open Font License, Version 1.1, with Reserved Font Names "Lateef" and "SIL".

This license is copied below, and is also available with an FAQ at: http://scripts.sil.org/OFL

-----

SIL OPEN FONT LICENSE Version 1.1 - 26 February 2007

-----

#### **PREAMBLE**

The goals of the Open Font License (OFL) are to stimulate worldwide development of collaborative font projects, to support the font creation efforts of academic and linguistic communities, and to provide a free and open framework in which fonts may be shared and improved in partnership with others.

The OFL allows the licensed fonts to be used, studied, modified and redistributed freely as long as they are not sold by themselves. The fonts, including any derivative works, can be bundled, embedded, redistributed and/or sold with any software provided that any reserved names are not used by derivative works. The fonts and derivatives, however, cannot be released under any other type of license. The requirement for fonts to remain under this license does not apply to any document created using the fonts or their derivatives.

#### **DEFINITIONS**

"Font Software" refers to the set of files released by the Copyright Holder(s) under this license and clearly marked as such. This may include source files, build scripts and documentation. "Reserved Font Name" refers to any names specified as such after the copyright statement(s).

"Original Version" refers to the collection of Font Software components as distributed by the Copyright Holder(s).

"Modified Version" refers to any derivative made by adding to, deleting, or substituting -- in part or in whole -- any of the components of the Original Version, by changing formats or by porting the Font Software to a new environment.

"Author" refers to any designer, engineer, programmer, technical writer or other person who contributed to the Font Software.

PERMISSION & CONDITIONS

Permission is hereby granted, free of charge, to any person obtaining a copy of the Font Software, to use, study, copy, merge, embed, modify, redistribute, and sell modified and unmodified copies of the Font Software, subject to the following conditions:

- 1) Neither the Font Software nor any of its individual components, in Original or Modified Versions, may be sold by itself.
- 2) Original or Modified Versions of the Font Software may be bundled, redistributed and/or sold with any software, provided that each copy contains the above copyright notice and this license. These can be included either as stand-alone text files, human-readable headers or in the appropriate machine-readable metadata fields within text or binary files as long as those fields can be easily viewed by the user.
- 3) No Modified Version of the Font Software may use the Reserved Font Name(s) unless explicit written permission is granted by the corresponding Copyright Holder. This restriction only applies to the primary font name as presented to the users.
- 4) The name(s) of the Copyright Holder(s) or the Author(s) of the Font Software shall not be used to promote, endorse or advertise any Modified Version, except to acknowledge the contribution(s) of the Copyright Holder(s) and the Author(s) or with their explicit written permission.
- 5) The Font Software, modified or unmodified, in part or in whole, must be distributed entirely under this license, and must not be distributed under any other license. The requirement for fonts to remain under this license does not apply to any document created

using the Font Software.

#### **TERMINATION**

This license becomes null and void if any of the above conditions are not met.

#### **DISCLAIMER**

THE FONT SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF COPYRIGHT, PATENT, TRADEMARK, OR OTHER RIGHT. IN NO EVENT SHALL THE COPYRIGHT HOLDER BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, INCLUDING ANY GENERAL, SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF THE USE OR INABILITY TO USE THE FONT SOFTWARE OR FROM OTHER DEALINGS IN THE FONT SOFTWARE.

## Font Awesome Free License

### https://fontawesome.com/

Font Awesome Free is free, open source, and GPL friendly. You can use it for commercial projects, open source projects, or really almost whatever you want. Full Font Awesome Free license: https://fontawesome.com/license/free.

# Icons: CC BY 4.0 License (https://creativecommons.org/licenses/by/4.0/) In the Font Awesome Free download, the CC BY 4.0 license applies to all icons packaged as SVG and JS file types.

# Fonts: SIL OFL 1.1 License (https://scripts.sil.org/OFL)
In the Font Awesome Free download, the SIL OFL license applies to all icons packaged as web and desktop font files.

# Code: MIT License (https://opensource.org/licenses/MIT)
In the Font Awesome Free download, the MIT license applies to all non-font and non-icon files.

#### # Attribution

Attribution is required by MIT, SIL OFL, and CC BY licenses. Downloaded Font

Awesome Free files already contain embedded comments with sufficient attribution, so you shouldn't need to do anything additional when using these files normally.

We've kept attribution comments terse, so we ask that you do not actively work to remove them from files, especially code. They're a great way for folks to learn about Font Awesome.

#### # Brand Icons

All brand icons are trademarks of their respective owners. The use of these trademarks does not indicate endorsement of the trademark holder by Font Awesome, nor vice versa. \*\*Please do not use brand logos for any purpose except to represent the company, product, or service to which they refer.\*\*

## material-ui

## https://material-ui.com/

The MIT License (MIT)

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

## Redux Toolkit

## https://redux-toolkit.js.org/

Copyright (c) 2018 Mark Erikson

MIT License

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# **Autoprefixer**

#### https://github.com/postcss/autoprefixer

Copyright 2013 Andrey Sitnik andrey@sitnik.ru

The MIT License (MIT)

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

### Axios

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

Copyright (c) 2014-present Matt Zabriskie

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

### Classnames

### https://www.npmjs.com/package/classnames

Copyright (c) 2017 Jed Watson

The MIT License (MIT)

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights

to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# Day.js

### https://day.js.org/

Copyright (c) 2018-present, iamkun

MIT License

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

### I18next

#### https://www.i18next.com/

Copyright (c) 2017 i18next

The MIT License (MIT)

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# i18next-http-backend

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

Copyright (c) 2020 i18next

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE

AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

#### **Immer**

## https://immerjs.github.io/immer/

Copyright (c) 2017 Michel Weststrate

MIT License

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# prop-types

### https://www.npmjs.com/package/prop-types

Copyright (c) 2013-present, Facebook, Inc.

MIT License

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell

copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

### React Hook Form

## https://react-hook-form.com/

Copyright (c) 2019-present Beier(Bill) Luo

MIT License

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

### React

### https://ko.reactjs.org/

Copyright (c) Facebook, Inc. and its affiliates.

MIT License

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

#### React-dom

### https://ko.reactjs.org/

Copyright (c) Facebook, Inc. and its affiliates.

MIT License

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER

LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

## REACT ROUTER

#### https://reactrouter.com/

Copyright (c) React Training 2016-2018

MIT License

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

## **REACT ROUTER-dom**

#### https://reactrouter.com/

Copyright (c) React Training 2016-2018

MIT License

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is

furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

### react-i18next

#### https://react.i18next.com/

Copyright (c) 2015 i18next

The MIT License (MIT)

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

#### react-number-format

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

Copyright (c) 2020 Sudhanshu Yadav

MIT License

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

#### React Redux

#### https://react-redux.js.org/

Copyright (c) 2015-present Dan Abramov

The MIT License (MIT)

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,

OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

## redux-persist

### https://github.com/rt2zz/redux-persist

Copyright (c) 2017 Zack Story

MIT License

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# Opencv

#### https://opencv.org/

Copyright (C) 2000-2020, Intel Corporation, all rights reserved.

Copyright (C) 2009-2011, Willow Garage Inc., all rights reserved.

Copyright (C) 2009-2016, NVIDIA Corporation, all rights reserved.

Copyright (C) 2010-2013, Advanced Micro Devices, Inc., all rights reserved.

Copyright (C) 2015-2016, OpenCV Foundation, all rights reserved.

Copyright (C) 2015-2016, Itseez Inc., all rights reserved.

Copyright (C) 2019-2020, Xperience AI, all rights reserved.

Third party copyrights are property of their respective owners.

License Agreement

For Open Source Computer Vision Library

(3-clause BSD License)

By downloading, copying, installing or using the software you agree to this license.

If you do not agree to this license, do not download, install,

copy or use the software.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- \* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- \* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- \* Neither the names of the copyright holders nor the names of the contributors may be used to endorse or promote products derived from this software without specific prior written permission.

This software is provided by the copyright holders and contributors "as is" and any express or implied warranties, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose are disclaimed. In no event shall copyright holders or contributors be liable for any direct, indirect, incidental, special, exemplary, or consequential damages (including, but not limited to, procurement of substitute goods or services; loss of use, data, or profits; or business interruption) however caused and on any theory of liability, whether in contract, strict liability, or tort (including negligence or otherwise) arising in any way out of the use of this software, even if advised of the possibility of such damage.

# jquery

#### https://jquery.org

Copyright OpenJS Foundation and other contributors, <a href="https://openjsf.org/">https://openjsf.org/</a>

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# angular.js

### https://angularjs.org

Copyright (c) 2020 Google LLC. https://angularjs.org The MIT License

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR

IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# ngStorage

## https://github.com/gsklee/ngStorage

Copyright (c) 2015 Gias Kay Lee

The MIT License (MIT)

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# moment.js

## https://github.com/moment/moment

Copyright (c) JS Foundation and other contributors

Permission is hereby granted, free of charge, to any person

obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# async.min.js

#### https://github.com/caolan/async

Copyright? 2010 Elijah Grey, who also goes by Eli Grey. This software is licensed under the MIT license.

## MIT license

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# ngDraggable.js

https://github.com/fatlinesofcode/ngDraggable

Copyright (c) 2014 philippd
The MIT License (MIT)

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# konva.js

https://konvajs.org

Original work Copyright (C) 2011 - 2013 by Eric Rowell (KineticJS)

Modified work Copyright (C) 2014 - present by Anton Lavrenov (Konva)

MIT License

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# springBoot

https://spring.io/projects/spring-boot

Apache License

Version 2.0, January 2004

https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

- 2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.
- 3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a

cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

- 4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:
- (a) You must give any other recipients of the Work or Derivative Works a copy of this License; and
- (b) You must cause any modified files to carry prominent notices stating that You changed the files; and
- (c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and
- (d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside

or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

- 5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions.

  Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.
- 6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.
- 7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.
- 8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise,

unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

## END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "{}" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright {yyyy} {name of copyright owner}

Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.

# log4j

https://logging.apache.org/log4j

Apache License

Version 2.0, January 2004

http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the

outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems,

and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

- 2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.
- 3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.
- 4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

- (a) You must give any other recipients of the Work or Derivative Works a copy of this License; and
- (b) You must cause any modified files to carry prominent notices stating that You changed the files; and
- (c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and
- (d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

- 5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions.

  Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.
- 6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.
- 7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.
- 8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

#### **END OF TERMS AND CONDITIONS**

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright 1999-2005 The Apache Software Foundation

Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and

limitations under the License.

# mssqlJdbc

### https://github.com/microsoft/mssql-jdbc

Copyright(c) 2020 Microsoft Corporation All rights reserved.

#### MIT License

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files(the "Software"),

to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense,

and / or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED \*AS IS\*, WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

### hibernate

#### https://hibernate.org

LGPL 2.1

Most Hibernate projects are released under LGPL v2.1.

The maintainers of Hibernate have consistently understood the LGPL to simply allow Hibernate to be used by both open source and proprietary code without any impact on the licensing or

distribution of such independent code. This interpretation applies regardless of whether a binary that includes Hibernate code is designed to run on the JVM or is a native image generated through use of tools and frameworks like GraalVM and Quarkus.

#### More detailed explanation

The original version of the LGPL was written in 1991 with embedded C programming in mind, before Java existed. This has sometimes led to questions about how to interpret LGPL in a Java context. The "L" in LGPL originally stood for "library"; LGPL was designed to enable libraries to be used by proprietary applications in situations that might be impermissible under the ordinary GPL. For this reason, the LGPL is classified as a "weak copyleft" license, in contrast to the GPL which is considered a "strong copyleft". The "L" in LGPL was later reinterpreted to mean "lesser", to communicate the fact that it has more limited scope than the GPL and is not meant exclusively for libraries.

By the 2000s, the LGPL had become one of the most widely used and best known open source licenses. At this time, some Java developers naturally began to adopt the LGPL for their projects as a more permissive and flexible alternative to the GPL. For projects like Hibernate, the LGPL had a simple interpretation in the Java setting, which can be summarized as follows:

LGPL requirements are triggered only if there is distribution; internal use is not restricted.

Distributors of binaries built from LGPL-licensed source code must comply with the LGPL by providing source code corresponding only to the LGPL-covered parts of the binary.

There is no requirement to publish independent code that, for example, merely imports LGPL-covered packages or classes. Such independent code can be under different licensing terms, including proprietary licensing terms or other open source licenses.

Modifications of LGPL-licensed source code, if distributed, must be licensed under the LGPL.

This has been the consistent interpretation of the LGPL by the maintainers of Hibernate ever since the project adopted LGPL.

#### Use in GraalVM native images

Recently there has been interest in native compilation for Java using tools like GraalVM, such as commonly used in frameworks like Quarkus. The view of the Hibernate maintainers is that native

compilation is a technical detail that does not fundamentally change how LGPL works for Java code. In a native image that includes LGPL-licensed code from Hibernate, the Hibernate code remains under the terms of the LGPL, but the other code in the generated binary is not affected by the licensing of the Hibernate code.

**ASL 2.0** 

Some Hibernate projects are released under ASL 2.0.

This is mostly due to our work with the Java Community Process: implementing a reference implementation in practice requires such a liberal license (or a fully proprietary one strangely enough).

### Iombok

### https://projectlombok.org

Copyright (C) 2009-2021 The Project Lombok Authors.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

\_\_\_\_\_\_

Licenses for included components:

org.ow2.asm:asm

org.ow2.asm:asm-analysis

org.ow2.asm:asm-commons

org.ow2.asm:asm-tree

org.ow2.asm:asm-util

ASM: a very small and fast Java bytecode manipulation framework Copyright (c) 2000-2011 INRIA, France Telecom

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- 1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- 2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- 3. Neither the name of the copyright holders nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

-----

rzwitserloot/com.zwitserloot.cmdreader

Copyright © 2010 Reinier Zwitserloot.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

.....

projectlombok/lombok.patcher

Copyright (C) 2009-2021 The Project Lombok Authors.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in

all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

-----

# annotationApi

https://github.com/javaee/javax.annotation

COMMON DEVELOPMENT AND DISTRIBUTION LICENSE (CDDL) Version 1.1

- 1. Definitions.
  - 1.1. "Contributor" means each individual or entity that creates or contributes to the creation of Modifications.
  - 1.2. "Contributor Version" means the combination of the Original Software, prior Modifications used by a Contributor (if any), and the Modifications made by that particular Contributor.
  - 1.3. "Covered Software" means (a) the Original Software, or (b) Modifications, or (c) the combination of files containing Original Software with files containing Modifications, in each case including portions thereof.
  - 1.4. "Executable" means the Covered Software in any form other than Source Code.
  - 1.5. "Initial Developer" means the individual or entity that first makes Original Software available under this License.

- 1.6. "Larger Work" means a work which combines Covered Software or portions thereof with code not governed by the terms of this License.
- 1.7. "License" means this document.
- 1.8. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.
- 1.9. "Modifications" means the Source Code and Executable form of any of the following:
- A. Any file that results from an addition to, deletion from or modification of the contents of a file containing Original Software or previous Modifications;
- B. Any new file that contains any part of the Original Software or previous Modification; or
- C. Any new file that is contributed or otherwise made available under the terms of this License.
- 1.10. "Original Software" means the Source Code and Executable form of computer software code that is originally released under this License.
- 1.11. "Patent Claims" means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable by grantor.
- 1.12. "Source Code" means (a) the common form of computer software code in which modifications are made and (b) associated documentation included in or with such code.
- 1.13. "You" (or "Your") means an individual or a legal entity exercising rights under, and complying with all of the terms of,

this License. For legal entities, "You" includes any entity which controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

#### 2. License Grants.

#### 2.1. The Initial Developer Grant.

Conditioned upon Your compliance with Section 3.1 below and subject to third party intellectual property claims, the Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license:

- (a) under intellectual property rights (other than patent or trademark) Licensable by Initial Developer, to use, reproduce, modify, display, perform, sublicense and distribute the Original Software (or portions thereof), with or without Modifications, and/or as part of a Larger Work; and
- (b) under Patent Claims infringed by the making, using or selling of Original Software, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the Original Software (or portions thereof).
- (c) The licenses granted in Sections 2.1(a) and (b) are effective on the date Initial Developer first distributes or otherwise makes the Original Software available to a third party under the terms of this License.
- (d) Notwithstanding Section 2.1(b) above, no patent license is granted: (1) for code that You delete from the Original Software, or (2) for infringements caused by: (i) the modification of the Original Software, or (ii) the combination of the Original Software

with other software or devices.

#### 2.2. Contributor Grant.

Conditioned upon Your compliance with Section 3.1 below and subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license:

- (a) under intellectual property rights (other than patent or trademark) Licensable by Contributor to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof), either on an unmodified basis, with other Modifications, as Covered Software and/or as part of a Larger Work; and
- (b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise dispose of: (1) Modifications made by that Contributor (or portions thereof); and (2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).
- (c) The licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first distributes or otherwise makes the Modifications available to a third party.
- (d) Notwithstanding Section 2.2(b) above, no patent license is granted: (1) for any code that Contributor has deleted from the Contributor Version; (2) for infringements caused by: (i) third party modifications of Contributor Version, or (ii) the combination of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or (3) under Patent Claims infringed by Covered Software in the absence of Modifications made by that Contributor.

## 3. Distribution Obligations.

## 3.1. Availability of Source Code.

Any Covered Software that You distribute or otherwise make available in Executable form must also be made available in Source Code form and that Source Code form must be distributed only under the terms of this License. You must include a copy of this License with every copy of the Source Code form of the Covered Software You distribute or otherwise make available. You must inform recipients of any such Covered Software in Executable form as to how they can obtain such Covered Software in Source Code form in a reasonable manner on or through a medium customarily used for software exchange.

## 3.2. Modifications.

The Modifications that You create or to which You contribute are governed by the terms of this License. You represent that You believe Your Modifications are Your original creation(s) and/or You have sufficient rights to grant the rights conveyed by this License.

## 3.3. Required Notices.

You must include a notice in each of Your Modifications that identifies You as the Contributor of the Modification. You may not remove or alter any copyright, patent or trademark notices contained within the Covered Software, or any notices of licensing or any descriptive text giving attribution to any Contributor or the Initial Developer.

## 3.4. Application of Additional Terms.

You may not offer or impose any terms on any Covered Software in Source Code form that alters or restricts the applicable version of this License or the recipients' rights hereunder. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Software. However, you may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear that any such warranty, support, indemnity or liability obligation is offered by You alone, and You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.

#### 3.5. Distribution of Executable Versions.

You may distribute the Executable form of the Covered Software under the terms of this License or under the terms of a license of Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and that the license for the Executable form does not attempt to limit or alter the recipient's rights in the Source Code form from the rights set forth in this License. If You distribute the Covered Software in Executable form under a different license, You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

## 3.6. Larger Works.

You may create a Larger Work by combining Covered Software with other code not governed by the terms of this License and distribute the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered Software.

## 4. Versions of the License.

#### 4.1. New Versions.

Oracle is the initial license steward and may publish revised and/or new versions of this License from time to time. Each version will be given a distinguishing version number. Except as provided in Section 4.3, no one other than the license steward has the right to modify this License.

#### 4.2. Effect of New Versions.

You may always continue to use, distribute or otherwise make the Covered Software available under the terms of the version of the License under which You originally received the Covered Software. If the Initial Developer includes a notice in the Original Software prohibiting it from being distributed or otherwise made available under any subsequent version of the License, You must distribute and make the Covered Software available under the terms of the version of the License under which You originally received the Covered Software. Otherwise, You may also choose to use, distribute or otherwise make the Covered Software available under the terms of any subsequent version of the License published by the license steward.

## 4.3. Modified Versions.

When You are an Initial Developer and You want to create a new license for Your Original Software, You may create and use a modified version of this License if You: (a) rename the license and remove any references to the name of the license steward (except to note that the license differs from this License); and (b) otherwise make it clear that the license contains terms which differ from this License.

## 5. DISCLAIMER OF WARRANTY.

COVERED SOFTWARE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED,

INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED SOFTWARE IS FREE OF DEFECTS, MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGING. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED SOFTWARE IS WITH YOU. SHOULD ANY COVERED SOFTWARE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED SOFTWARE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

#### 6. TERMINATION.

- 6.1. This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. Provisions which, by their nature, must remain in effect beyond the termination of this License shall survive.
- 6.2. If You assert a patent infringement claim (excluding declaratory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom You assert such claim is referred to as "Participant") alleging that the Participant Software (meaning the Contributor Version where the Participant is a Contributor or the Original Software where the Participant is the Initial Developer) directly or indirectly infringes any patent, then any and all rights granted directly or indirectly to You by such Participant, the Initial Developer (if the Initial Developer is not the Participant) and all Contributors under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate prospectively and automatically at the expiration of such 60 day notice period, unless if within such 60 day period You withdraw Your claim with respect to the Participant Software against such Participant either unilaterally or pursuant to a written agreement with Participant.
- 6.3. If You assert a patent infringement claim against Participant

alleging that the Participant Software directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections 2.1 or 2.2 shall be taken into account in determining the amount or value of any payment or license.

6.4. In the event of termination under Sections 6.1 or 6.2 above, all end user licenses that have been validly granted by You or any distributor hereunder prior to termination (excluding licenses granted to You by any distributor) shall survive termination.

## 7. LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED SOFTWARE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

## 8. U.S. GOVERNMENT END USERS.

The Covered Software is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" (as that term is defined at 48 C.F.R. §

252.227-7014(a)(1)) and "commercial computer software documentation" as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S. Government End Users acquire Covered Software with only those rights set forth herein. This U.S. Government Rights clause is in lieu of, and supersedes, any other FAR, DFAR, or other clause or provision that addresses Government rights in computer software under this License.

## 9. MISCELLANEOUS.

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by the law of the jurisdiction specified in a notice contained within the Original Software (except to the extent applicable law, if any, provides otherwise), excluding such jurisdiction's conflict-of-law provisions. Any litigation relating to this License shall be subject to the jurisdiction of the courts located in the jurisdiction and venue specified in a notice contained within the Original Software, with the losing party responsible for costs, including, without limitation, court costs and reasonable attorneys' fees and expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License. You agree that You alone are responsible for compliance with the United States export administration regulations (and the export control laws and regulation of any other countries) when You use, distribute or otherwise make available any Covered Software.

## 10. RESPONSIBILITY FOR CLAIMS.

As between Initial Developer and the Contributors, each party is responsible for claims and damages arising, directly or indirectly,

out of its utilization of rights under this License and You agree to work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.

.....

NOTICE PURSUANT TO SECTION 9 OF THE COMMON DEVELOPMENT AND DISTRIBUTION LICENSE (CDDL)

The code released under the CDDL shall be governed by the laws of the State of California (excluding conflict-of-law provisions). Any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California and the state courts of the State of California, with venue lying in Santa Clara County, California.

The GNU General Public License (GPL) Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc. 51 Franklin Street, Fifth Floor Boston, MA 02110-1335

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

## Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and

to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have.

You must make sure that they, too, receive or can get the source code.

And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must

be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute

such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

- a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.
- b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.
- c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

- 3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:
  - a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
  - b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
  - c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the

executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

- 4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.
- 5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.
- 6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.
- 7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not

excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new

versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

## NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL

DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM
(INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED
INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF
THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR
OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

#### END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

One line to give the program's name and a brief idea of what it does.

Copyright (C) < year > < name of author >

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1335 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'. This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

signature of Ty Coon, 1 April 1989 Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

#

Certain source files distributed by Oracle America, Inc. and/or its affiliates are subject to the following clarification and special

exception to the GPLv2, based on the GNU Project exception for its Classpath libraries, known as the GNU Classpath Exception, but only where Oracle has expressly included in the particular source file's header the words "Oracle designates this particular file as subject to the "Classpath" exception as provided by Oracle in the LICENSE file that accompanied this code."

You should also note that Oracle includes multiple, independent programs in this software package. Some of those programs are provided under licenses deemed incompatible with the GPLv2 by the Free Software Foundation and others. For example, the package includes programs licensed under the Apache License, Version 2.0. Such programs are licensed to you under their original licenses.

Oracle facilitates your further distribution of this package by adding the Classpath Exception to the necessary parts of its GPLv2 code, which permits you to use that code in combination with other independent modules not licensed under the GPLv2. However, note that this would not permit you to commingle code under an incompatible license with Oracle's GPLv2 licensed code by, for example, cutting and pasting such code into a file also containing Oracle's GPLv2 licensed code and then distributing the result. Additionally, if you were to remove the Classpath Exception from any of the files to which it applies and distribute the result, you would likely be required to license some or all of the other code in that distribution under the GPLv2 as well, and since the GPLv2 is incompatible with the license terms of some items included in the distribution by Oracle, removing the Classpath Exception could therefore effectively compromise your ability to further distribute the package.

Proceed with caution and we recommend that you obtain the advice of a lawyer skilled in open source matters before removing the Classpath Exception or making modifications to this package which may subsequently be redistributed and/or involve the use of third party software.

#### **CLASSPATH EXCEPTION**

Linking this library statically or dynamically with other modules is making a combined work based on this library. Thus, the terms and conditions of the GNU General Public License version 2 cover the whole combination.

As a special exception, the copyright holders of this library give you permission to link this library with independent modules to produce an executable, regardless of the license terms of these independent modules, and to copy and distribute the resulting executable under terms of your choice, provided that you also meet, for each linked independent module, the terms and conditions of the license of that module. An independent module is a module which is not derived from or based on this library. If you modify this library, you may extend this exception to your version of the library, but you are not obligated to do so. If you do not wish to do so, delete this exception statement from your version.

## thrift

https://thrift.apache.org

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

## 1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License. "Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

- 2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.
- 3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate

as of the date such litigation is filed.

- 4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:
  - (a) You must give any other recipients of the Work or Derivative Works a copy of this License; and
  - (b) You must cause any modified files to carry prominent notices stating that You changed the files; and
  - (c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and
  - (d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

- 5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions.
  Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.
- 6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.
- 7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.
- 8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a

result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

## **END OF TERMS AND CONDITIONS**

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS. WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License. SOFTWARE DISTRIBUTED WITH THRIFT: The Apache Thrift software includes a number of subcomponents with separate copyright notices and license terms. Your use of the source code for the these subcomponents is subject to the terms and conditions of the following licenses. Portions of the following files are licensed under the MIT License: lib/erl/src/Makefile.am Please see doc/otp-base-license.txt for the full terms of this license. For the aclocal/ax\_boost\_base.m4 and contrib/fb303/aclocal/ax\_boost\_base.m4 components: # Copyright (c) 2007 Thomas Porschberg < thomas@randspringer.de> # Copying and distribution of this file, with or without # modification, are permitted in any medium without royalty provided # the copyright notice and this notice are preserved. For the lib/nodejs/lib/thrift/json\_parse.js:

```
json_parse.js
  2015-05-02
  Public Domain.
  NO WARRANTY EXPRESSED OR IMPLIED. USE AT YOUR OWN RISK.
*/
(By Douglas Crockford <douglas@crockford.com>)
For lib/cpp/src/thrift/windows/SocketPair.cpp
/* socketpair.c
* Copyright 2007 by Nathan C. Myers <ncm@cantrip.org>; some rights reserved.
* This code is Free Software. It may be copied freely, in original or
* modified form, subject only to the restrictions that (1) the author is
* relieved from all responsibilities for any use for any purpose, and (2)
* this copyright notice must be retained, unchanged, in its entirety. If
* for any reason the author might be held responsible for any consequences
* of copying or use, license is withheld.
*/
For lib/py/compat/win32/stdint.h
// ISO C9x compliant stdint.h for Microsoft Visual Studio
// Based on ISO/IEC 9899:TC2 Committee draft (May 6, 2005) WG14/N1124
//
// Copyright (c) 2006-2008 Alexander Chemeris
//
// Redistribution and use in source and binary forms, with or without
// modification, are permitted provided that the following conditions are met:
//
// 1. Redistributions of source code must retain the above copyright notice,
    this list of conditions and the following disclaimer.
//
```

```
// 2. Redistributions in binary form must reproduce the above copyright
    notice, this list of conditions and the following disclaimer in the
    documentation and/or other materials provided with the distribution.
//
// 3. The name of the author may be used to endorse or promote products
    derived from this software without specific prior written permission.
//
// THIS SOFTWARE IS PROVIDED BY THE AUTHOR ` ` AS IS'' AND ANY EXPRESS OR IMPLIED
// WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
// MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO
// EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
// SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
// PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS;
// OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
// WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
// OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF
// ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
//
Codegen template in t_html_generator.h
* Bootstrap v2.0.3
* Copyright 2012 Twitter, Inc.
* Licensed under the Apache License v2.0
* http://www.apache.org/licenses/LICENSE-2.0
* Designed and built with all the love in the world @twitter by @mdo and @fat.
For t_cl_generator.cc
```

\* Copyright (c) 2008- Patrick Collison <patrick@collison.ie>

* Copyright (c) 2006- Facebook	

## queryDsI

## http://querydsl.com

Apache License

Version 2.0, January 2004

http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

## 1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

- 2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.
- 3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.
- 4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:
  - (a) You must give any other recipients of the Work or Derivative Works a copy of this License; and
  - (b) You must cause any modified files to carry prominent notices stating that You changed the files; and
  - (c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and

attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

- 6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.
- 7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.
- 8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.
- 9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason

of your accepting any such warranty or additional liability.

#### **END OF TERMS AND CONDITIONS**

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.

## libevent

## https://libevent.org

Copyright (c) 2000-2007 Niels Provos copyright (c) 2007-2010 Niels Provos and Nick Mathewson

Libevent is available for use under the following license, commonly known

as the 3-clause (or "modified") BSD license:

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- 1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- 2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- 3. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Portions of Libevent are based on works by others, also made available by them under the three-clause BSD license above. The copyright notices are available in the corresponding source files; the license is as above. Here's a list:

## log.c:

Copyright (c) 2000 Dug Song <a href="mailto:copyright">copyright</a> (c) 1993 The Regents of the University of California.

#### strlcpy.c:

Copyright (c) 1998 Todd C. Miller < Todd. Miller @courtesan.com>

#### win32select.c:

Copyright (c) 2003 Michael A. Davis <mike@datanerds.net>

## evport.c:

Copyright (c) 2007 Sun Microsystems

## ht-internal.h:

Copyright (c) 2002 Christopher Clark

## minheap-internal.h:

Copyright (c) 2006 Maxim Yegorushkin <maxim.yegorushkin@gmail.com>

\_\_\_\_\_

The arc4module is available under the following, sometimes called the "OpenBSD" license:

Copyright (c) 1996, David Mazieres <dm@uun.org>

Copyright (c) 2008, Damien Miller <djm@openbsd.org>

Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

## rapidjson

https://rapidjson.org

Tencent is pleased to support the open source community by making RapidJSON available. Copyright (C) 2015 THL A29 Limited, a Tencent company, and Milo Yip. All rights reserved.

If you have downloaded a copy of the RapidJSON binary from Tencent, please note that the RapidJSON binary is licensed under the MIT License.

If you have downloaded a copy of the RapidJSON source code from Tencent, please note that RapidJSON source code is licensed under the MIT License, except for the third-party components listed below which are subject to different license terms. Your integration of RapidJSON into your own projects may require compliance with the MIT License, as well as the other licenses applicable to the third-party components included within RapidJSON. To avoid the problematic JSON license in your own projects, it's sufficient to exclude the bin/jsonchecker/ directory, as it's the only code under the JSON license.

A copy of the MIT License is included in this file.

Other dependencies and licenses:
Open Source Software Licensed Under the BSD License

The msinttypes r29
Copyright (c) 2006-2013 Alexander Chemeris
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- \* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- \* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- \* Neither the name of copyright holder nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF

MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS AND CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

json.org	
Copyright (c) 2002 JSON.org	
All Rights Reserved.	
JSON_checker	
Copyright (c) 2002 JSON.org	
All Rights Reserved.	
Terms of the JSON License:	

Open Source Software Licensed Under the JSON License:

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

The Software shall be used for Good, not Evil.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED,

INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A
PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR
COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN
ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH
THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Terms of the	e MIT Licer	nse:	

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

```
( , " ")
.
( , " ") ( , " ")가
```

```
가
                  가
                         가
                                                   30
1.
 가
       가
               가
                                                    가
2.
                            (1) (
                                               )
                            ); (2) 3
가
(3)
                    (SaaS)
         3 가
                            ; (4)
           3 가
3.
             3
                                                          'OSS ')
                                   가
가
                           OSS
              . 가
                           ,OSS
                                                  가
              OSS
                                                      OSS
```

501

4.

가 5. MAC MAC 가 ). ") : (1) ; (2) (3) 6. 가 가 가 7. 1 가 , 가 가 가 가 가 가 가 8.

502

```
3 가
                                                         (
                                              가
                                                                          가
                                                         가
9.
                       가
                 가
                                      가
                                             (
 )
                                                    가
?
                                      ),
               가
                        가
10.
                        30
가
11.
                                                                        : (1) 3
                                ; (2)
                                                        ; (3)
(4)
12.
                      )
13.
```

503

UN (The United Nations Convention on Contracts for the International Sale of Goods) 14. 가 가 ( ) 15. 가 , 가 가 가 가 가 가 가 가 가 가 가 16.

https://www.supremainc.com/en/support

504

# Index

1	M
<b>I</b> 1:N Fast 95	MIFARE 185, 187, 295
1:N 95	WIII ARE 103, 107, 293
7.5	
	N
A	NVR 가 239
Airfob Pass 331	
Airfob Portal 331	
	0
	OM-120 121
В	Output Module 121
BioMini USB Agent 313	
BioStar 2 291	6
BioStar 2 / 291	P
BioStar 2 66	PIN 168
BioStar 2 309	
BioStar 2 4	D
BioStar 2 60	R
BioStar 2 47	RS-485 91
BioStar 2 291	
BioStar 2 61	S
C	SIP 117
CoreStation 125	Soft APB 140
CSN 182	Supervised Input 120
CSN 182	
CSN 182	T
CSN 95	TCP/IP 91
CSV 162	71
031 102	
	U
D	Unified Gateway 64
DESFire 185, 187, 295	USB 가 165
DM-20 120	
	***
	W
Н	Wiegand 112, 294
Hard APB 140	Wiegand 131
HTTPS 309	Wiegand 78
	Wiegand 183
The second secon	Wiegand 293
I.	Wiegand 183
iCLASS 185, 187, 295	Wiegand 183
IM-120 122	
Input Module 122	Z
IP 242	
IP 가 241	315
	169
	308

# Index

71	156	
308	323	
가 291	가 165	
231	158	
208	199	
247	298	
71	68	
298	298	
230	95, 298	
234, 235	298	
256	318	
104, 244	95	
264	95	
104	214	
104	185, 295	
260	95	
104	187	
267	187	
71	95	
254	207	
71	206	
75	가 305	
95	79	
298	79	
298	246	
58	247	
95	318	
90	45	
331	224	
185	225	
298	114	
LAN 91	140, 141	
133 228	202 202	
348	185	
71		
95	323 314	
270	173	
270	95	
105	143	
105	- 146	
185	- 149	
113	- 147	
238	- 145	
316	143	
318	149	
318	가 145	
318	232	
318	247	
-BioStar 158	247	
ID 298	112, 311	
287	311	
20.	011	

## Index

```
95
                                227
    221
                                137
    138
                               141
                               142
153
    95
    212
    91
                              229
    247
                               292
   122
                               294
                               114
   137
   247
304
200
                               90
                               가 288
                               298
                               125
    103
   91
                               309
   95
110
90
                             105
                              95
64
  / 105
                               137
                               137
ID 90
                              90
87
95
Wilegand 112
   75
78
103
74
                              90
                               247
                               171
   75
                              105
   298
                              204
   105
                             가 305
   226
   88
   105
     95
      88
       197
86
        215
       215
        247
   221
   253
LFD 95
   171
   &
              247
   121
   154
   152
   151
   137
    138
    136
    134
    137
```



## (주) 슈프리마

13554 경기도 성남시 분당구 정자일로 248 파크뷰타워 17층 영업 문의 1522 4507(1번) korea@suprema.co.kr | 고객지원 1522 4507(2번) cs@suprema.co.kr

© 2023 Suprema Inc. 이 문서에 표기된 슈프리마, 제품명, 번호는 슈프리마의 등록 상표입니다. 모든 회사명과 제품명은 해당 회사의 상표이거나 등록 상표입니다. 제품 외관, 제조 상태 및 사양은 사전 통지 없이 변경될 수 있습니다.