

# **iGuard™ Server**

**Version 2**

iServer  
User Guide

This manual was written for use with the iServer version 2.

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## 1. Introduction

### 1.1 System Requirement

- Windows 98/ME/NT 4.0 or above/XP. For Windows 98, ODBC driver should be updated from the latest patch.
- iServer Software can connect to iGuard™ via modem, local area network or Internet type network connection.

### 1.2 Quick Start Guide

This quick start guide would guide you to run the iServer program and receive transactions from iGuard™. This would use the default setting of the iServer and the following setting will be made:

- Create a default version of Access database (.mdb) file.
- Use default iGuard™ configuration.
- Ready to receive access logs.

Please follows the steps below and you would be able to connect your iGuard™ to the iServer and store the transaction in the database.

#### 1.2.1 Installation

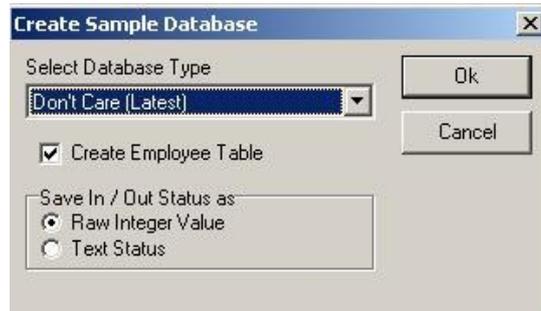
When the iServer is installed to the designated folder, the following steps would appear after the iServer launched.

1. iServer can create a sample database. Please choose “Yes” if it is first time running when asking to create sample database. This would create an empty database (acclog.mdb) using by iServer. If you want to use a database other than MS Access, please refer to the Database Connection section in this manual.



Picture 1. Please choose “Yes” to create mdb for the first run.

2. In the Create Sample Database Dialog, you can use the default setting and click OK. For detail about “Save In/Out Status as”, please see the iServer Setting section 3.3.4.



Picture 2. Please click “OK” to use default setting

3. iServer would create a default Data Source Name (DSN). Please use default setting with the DSN iServer and click “OK”.



Picture 3. Please click “OK” to use default Name

4. Please use default setting and click “NO” of the following screen shot. It means not to prompt for configuration dialogue.



Picture 4. Please click “NO” to use the default setting.

5. iServer can create a shortcut on the desktop



Picture 5. Please click "Yes or Not"

6. iServer can create a shortcut on the Window Startup Folder. However, we do not recommended you start the iServer when the windows starts.



Picture 6. Click "NO"

7. iServer can start to receive access log. Please choose "Yes" to receive access log now.

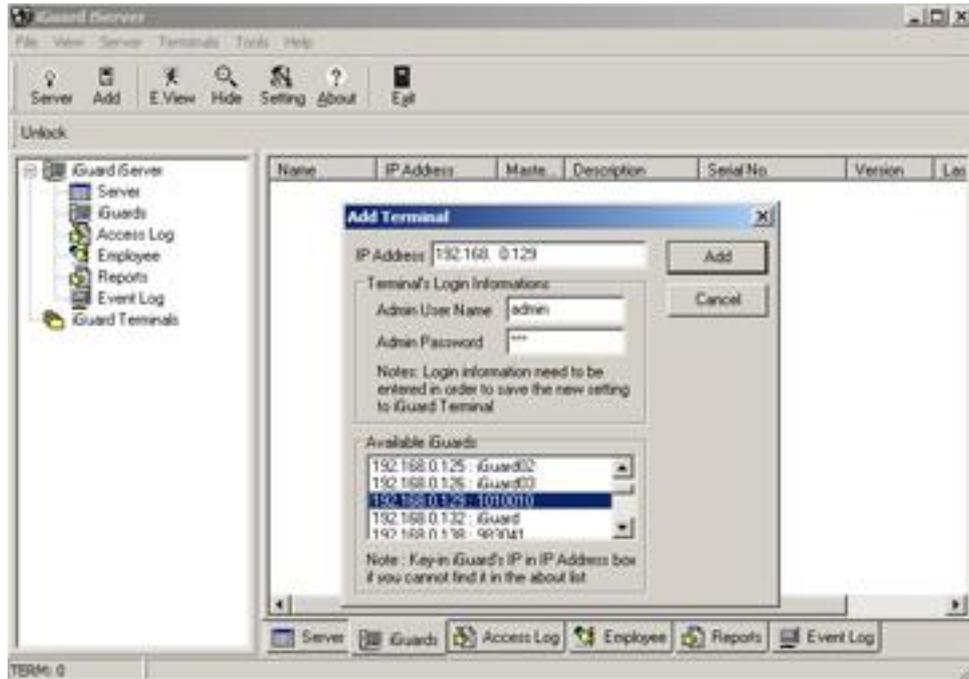


Picture 7. Please click "Yes"

### 1.2.2 Adding iGuard™

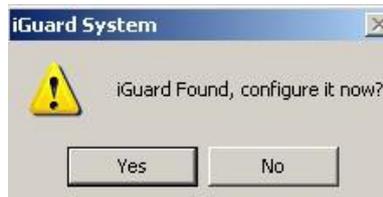
8. iServer is ready to add iGuard™ Master now. Please click "Add" icon button on the icon menu bar. Select the iGuard™ that you want to add or type in the IP Address if the iGuard™ does not shown in the list. Type the login name and password and the click "Add".

## Introduction



Picture 8. Add Terminal Dialog

9. If iGuard™ is found, please choose “Yes” to config the iGuard™. This action would register the iGuard™ .



Picture 9. Please click “Yes” to configure it.

10. In the configuration dialogue, please use default setting and do not change anything. Please click “Yes” and this would finish registering the iGuard™ .



Picture 10. Please use default setting and click "OK"

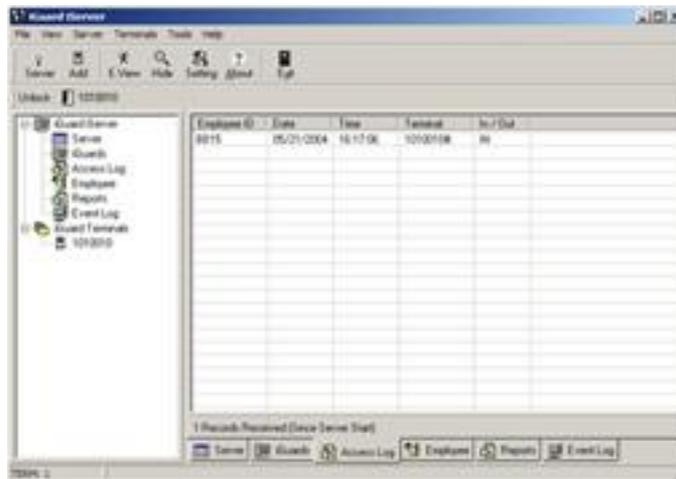
11. Please save the detail.



Picture 11. Please click "OK" to save

### 1.2.3 Ready to receive transaction

12. The iServer is ready to receive transactions from iGuard™ now. You can present your finger and see the Access Log viewer to view your data. This viewer is in text mode. The records would be accumulated once the iServer started. For detail about the viewer, please look at Viewer in the User Interface section.



Picture 12. Access Log Viewer

## 2. Database

### 2.1 Transaction

You need to registered iGuard™ Master in the iServer in order to receive AccessLog from the iGuard™ Master to the PC database. When you present a card on the iGuard™, the log would be stored in the iGuard™ Memory and also transfer to iServer and the iServer would store the log into the database. However, if the iServer is not running and the iGuard™ is still working, the upcoming log would be stored in the iGuard™ memory and a buffer queue in iGuard™. Once the iGuard™ detect the iServer, the log in the buffer queue would then be sent to iServer. However, if you have not ever registered the iGuard™ Master or un-register the iGuard™ Master from iServer, the logs would be stored in the iGuard™ memory but it would not be stored in the buffer queue. If you want to retrieve the iGuard™ Accesslog from iGuard™ memory, you need to import the AccessLog from iGuard™ and please refer to Import from iGuard™ section for further detail.

iGuard™ Accesslog Memory Size:

FPS 5000 Access Log

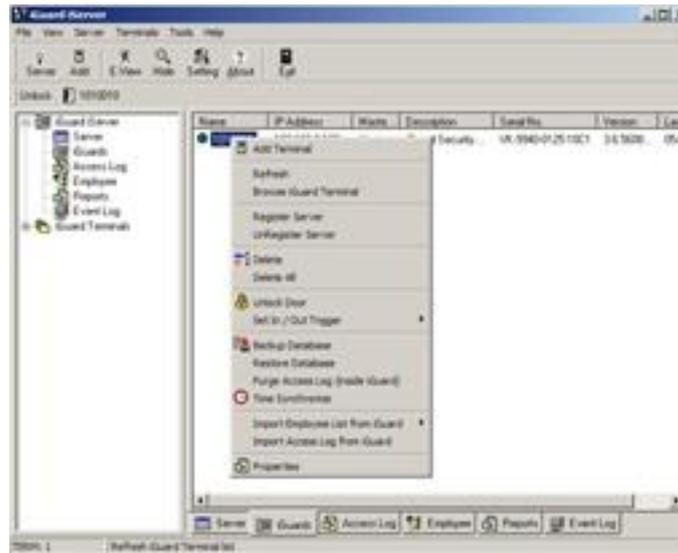
LM 10000 Access Log

iGuard™ Accesslog queue size (Used when the log cannot be sent to iServer):

FPS 5000 Access Log

LM 10000 Access Log

The following functions (2.2 – 2.8) show how you can access the iGuard™ database and local database from iServer. Some of the functions described below can be referred to the pop-up menu below.



Picture 13. Pop-up menu by right-clicking to the iGuard™ icon.

## 2.2 Import from iGuard™

### 2.2.1 AccessLog

This function would import all the records in the AccessLog to the local database. Duplicated records would be skipped.

### 2.2.2 Employee

There are internal and Smart Card database for FPS series and internal database for LM series. But some models of FPS have the Internal database only and you can only import Employee from internal database. This function would import EmployeeID, LastName, FirstName, OtherName, Department and EmpStatus to the local database. Double byte characters, Chinese for instance, would also be imported to the local database in this version of iServer. Unicode character would also be imported into the database. However, iServer would not be able to view the Unicode character.

## 2.3 Backup and Restore from iGuard™

### 2.3.1 Backup

This function would backup the iGuard™ database (AccessLog and Employee) to .idb file.

### 2.3.2 Restore

This function would restored the .idb database file to the iGuard™.

## **2.4 Purge AccessLog from iGuards**

This function would delete the AccessLog from iGuard™ permanently.

## **2.5 Purge Logs from Local Database (ODBC)**

### **2.5.1 AccessLog**

This function would delete the AccessLog from the local database permanently.

## **2.6 Backup and Compact Database (ODBC)**

If you have deleted the records in the database, there would have some spaces that cannot be deleted. Packing the database (ODBC) would clear all the spaces left behind and the .mdb size would become smaller. This function would allow you to backup your current database (ODBC).

## **2.7 Create Empty Database (ODBC)**

iServer can create an empty database and it will be linked up with iServer and ready to stored transactions after this function is performed.

## **2.8 Start Log Insert Test**

This function would create some testing accesslogs.

## **3. iServer Setting**

### **3.1 System Setting**

#### **3.1.1 Network Setting**

- Server IP
- Server Port
- Subnet Mask

#### **3.1.2 Misc. Setting**

You can choose to keep AccessLog in Database (ODBC) or Text file or Both. If you choose to keep in Database (ODBC), the transaction received would be

kept in the database only. If you choose to keep in Both, the transaction received would have kept in both Database (ODBC) and Text file that specified in the File box. For the PC which do not have ODBC updated driver like Windows 98, iServer would only kept the transaction received in the text file.

*Date format Setting:*

Please make sure that the Date format of iServer must be the same as iGuard™ Master. Otherwise, it may not be able to import accesslog from iGuard™ Master properly.

### **3.2 ODBC Setting**

The default database created would not have parameters specified in the parameter box. However, for some ODBC compatible database, you may need the login user name and password in order to access the database.

You then need to specify the parameter in the parameter box or use the default parameter.

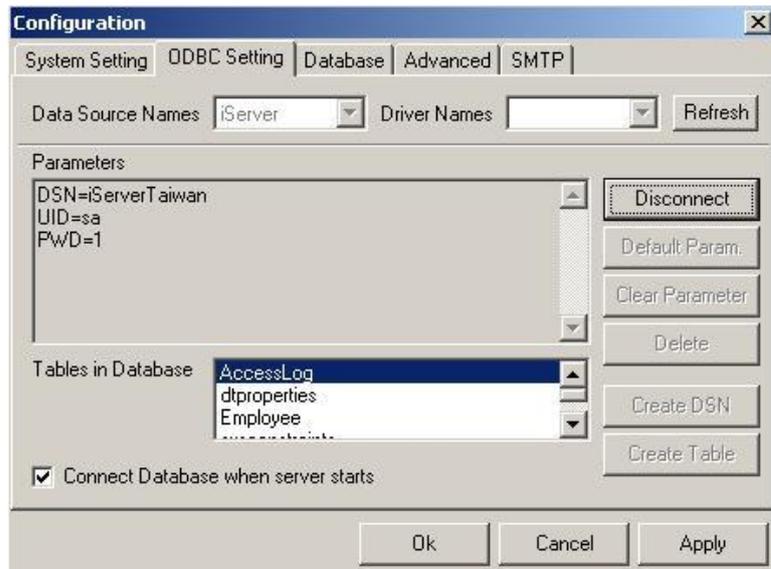
*Typing parameter in the box:*

For example when using SQL Server, the parameter is like:

DSN=iServer  
UID=sa  
PWD=1

*Using default parameter in the box:*

Please click “Default Param” button -> Machine DSN-> Choose the correct dsn which is used by iServer.



Picture 14. Please type in the parameter like above or use “Default param” button to help you

After finished typing the parameter, if you click “Connect” button, all the tables inside the database would appear in the Tables in Database list box. Then the iServer is connected to the database success. If not, iServer would not be started to receive data. Please refer to the Database Connection Section for further detail if you are using the database other than MS Access.

### 3.2.1 Table in Database

This just shows the list of tables created in the database that iServer used.

## 3.3 Database Setting

### 3.3.1 AccessLog

The combo box shows the table name used by iServer. You can also choose to show all logs in the Database or show only most recent 200 logs on the AccessLog Viewer. Show all logs in the Database would affect the performance of the iServer depending on the size of the database. “Show only most recent 200 logs” is recommended and it would not affect the performance of the iServer.

### 3.3.2 Use Employee Table

Unchecked this could eliminate the Employee Viewer on the Interface. Save in separated file is recommended and worked on this version of iServer. Save in Database would not perform in this version.

### 3.3.3 Other Options

“Show Emp Info in Acc Log” would only work when “Show all logs in Database” is activated. This would show the Employee’s FirstName, LastName, OtherName and Department as well for every transaction in the AccessLog viewer.

### 3.3.4 Advanced

This shows the format of the insertion query of AccessLog. In the default setting, Raw Integer Value” would be used and the query would be like,

```
INSERT INTO %s (employeeid, logdate, logtime, terminalid, inout)
VALUES ('%s', '%s', '%s', '%s', %s)
```

When the iServer is installing, it would prompt you to choose to save the In/Out Status as *Raw Integer Value* or *Text Value*.

*If you choose Raw Integer Value :*

The In/Out Status will be save as 0 or 1 and you cannot switch to save it as Text Value like “IN” or “OUT”.

*If you choose Text Status :*

The In/Out Status will be save as “IN” or “OUT”. The Advance Setting can let you to save it as “0” or “1” by enabling the Raw Integer Value in the “Save In/Out Status as”. The query showing in the SQL Command would have a little bit different. Like,

```
INSERT INTO %s (employeeid, logdate, logtime, terminalid, inout)
VALUES ('%s', '%s', '%s', '%s', '%s') ← single quote will be used in
the last parameter.
```

Please DO NOT change the setting if you are not sure what the query is. If your database is using char type in this InOut field, you can switch to save the InOut status either as 0/1 (Raw Integer) or In/Out (Text status). But if your database is using int type in this InOut field, you can only use to save as Raw Integer value.

### 3.3.5 Log Format

iServer can export the Accesslog and Report in text file. If you choose to Keep Access Log in “Both”, the record would be store in both database and

text file. However, user in this function can change these files format in iServer v. 2.4.3.848 or later.

- File Format. There are 3 type of file format.
  - CSV – Record field are presented in Comma Delimited.
  - TSV – Record field are presented in Tab Delimited.
  - CUST – User can select their Field Delimiter and input Text Qualifier.

E.g If you choose CUST, Field Delimiter is comma (,) and Text Qualifier is (“), the log format in the text file would be like:

“AB123”,”Terminal 1”

Default is CSV.

- Date Format and Time Format

If you choose dd mmm yyyy, the Date would be like : 01 Jan 2005.

- Fields contained in the text file.

Please choose the fields you want to display in the text file by selecting the field name in the Combo box.

- Id – Employee ID
- Date – Log Date
- Time – Log Time
- Datetime – combine the Log Date and Log Time with one white space separated.
- Terminalid – Terminal ID
- Inout – Showing as IN, OUT, F1, F2, F3, F4 or UNAUTH
- Io – showing as I, O, F1, F2, F3, F4 or U
- Rcdid – RCDID field in the database. It is a record id.
- department

You can put the fields in an order by pressing the arrow buttons.

Format is a string print out format. Refer to the C’s printf function specification.

Length is minimum field length and it must be an integer value. This would be ignored if the Format has not been defined.

0 : do not care, same as the length of the value

➤ 0 : Right Justifies, if the length of value is less than the specified length,

space character is filled in left hand side.

- 0 : Left Justifies, if the length of value is less than the specified length space character is filled in the right hand side.

After change the Format or Length setting, you need to press the “Save” button to save the setting, otherwise it would not have any changes. All other changes do not need to press “Save”.

- Add carriage return after each record  
“\r\n” would be added at the end of each record if this is enabled.  
Default is enabled.

## **4. Terminal Setting**

### **4.1 Add, Register and Un-register iGuard**

iServer can add, register and un-register iGuard™ Master. However, slave can also be added to iServer but it would not be registered since iServer would not receive any transaction log from slave.

### **4.2 IN / OUT Status**

iGuard™ can be triggered to In/Out status immediately by the function on the pop-up menu.

### **4.3 Time Synchronization**

This function would synchronize the time between iServer and iGuard™.

### **4.4 Status Change**

- Green light - the iGuard™ is online and iServer receive online event from the iGuard™.
- Yellow light – the iGuard™ has not been registered.
- Red light – the iGuard™ is offline and iServer has no online event received from iGuard™.
- Off – Unknown

However, we are not recommended you use this status to determine the network status between iGuard and iServer. This status could not be accurate for many reasons. For example, if the network connection is going through a router or the iServer PC has setup a firewall, the online event message would not be able to send to iServer and the status may appear Red light.

## 5. iServer Interface

### 5.1 Viewer

#### 5.1.1 Server

Information showing:

- *iServer Program Version*
- *Number of iGuards*
- *Number of Logs Received*

#### 5.1.2 iGuards

Information showing:

- *Name*
- *IP Address*
- *Master/Slave*
- *Description*
- *Serial No.*
- *Version*
- *Last Access*

#### 5.1.3 Access Log

Information Showing:

- *EmployeeID,*
- *LogDateTime (for MS Access and MS SQL Server only, otherwise, it will be separated into LogDate and LogTime),*
- *TerminalID,*
- *InOut (0 – In, 1 – Out, 2 – F1, 3 – F2, 4 – F3, 5 – F4)*

Mode of AccessLog viewer:

- *Text mode* (Showing most recent 200 logs, Last-In-First-Out mechanism will perform afterwards). This mode pursues fast performance of the iServer.
- *DB mode* (Showing all access logs in the database and this mode would affect the performance of the iServer depends on the size of the database)

Setting:

Include employee detail in the Access Log when DB mode is activated by enabling the “Show Emp Info in Acc Log” in the Database Setting.

Show Photo of the employee who has just clock-in :

By enabling the “Employee Detail for AccessLog”.

Purge AccessLog:

By right-clicking on the AccessLog. Delete the whole AccessLog (ODBC).

Export AccessLog:

By right-clicking on the AccessLog. Format: .log, .txt and .xls Excel. The format of Log and Text are the same.

Sorting:

By right-clicking on the AccessLog. (Only enabled when choosing “Show all logs in Database)

Sort By : EmployeeID, Date/Time, Terminal, In/Out

Order : Ascending, Descending

#### 5.1.4 Employee

Information Showing:

- *EmployeeID,*
- *LastName,*
- *FirstName,*
- *OtherName,*
- *Password, (Not in use)*
- *EmpStatus,*
- *NumMinutiae1, (Not in use)*
- *NumMinutiae2, (Not in use)*
- *PhotoFile, (Store the file name)*
- *Minutiae1, (Not in use)*
- *Minutiae2, (Not in use)*
- *Photo, (Not in use)*
- *Department*

Add / Change Photo:

Jpeg photo supported. Filename is stored in the PhotoFile field in the database.

Remove Photo:

Purge Employee List:

Delete all employees in the database (ODBC)

Export to CSV:

In the iServer Database’s Employee table, the status is stored as numerical value. This can be interpreted as

## User Interface

“Active”, “Password”, “Fingerprint”, “Smartcard”, “Automatch”. After you export the employee table to csv, the numerical value would be calculated and showing as a meaningful status.

	A	B	C	D	E	F	G	H	I
1	ID	"LastName"	"FirstName"	"OtherName"	"Active"	"Password"	"Fingerprint"	"Smartcard"	"Automatch"
2									
3	15A1	"HO"	"ONE"	""	"N"	"N"	"N"	"N"	"N"
4	15A2	"HO"	"TWO"	""	"N"	"N"	"N"	"N"	"N"
5	15B1	"HO"	"THREE"	""	"N"	"N"	"N"	"N"	"N"
6	15B2	"HO"	"FOUR"	""	"N"	"N"	"N"	"N"	"N"
7	15C1	"HO"	"FIVE"	""	"N"	"N"	"N"	"N"	"N"
8	15C2	"HO"	"SIX"	""	"N"	"N"	"N"	"N"	"N"
9	25A1	"HO"	"SEVEN"	""	"N"	"N"	"N"	"N"	"N"
10	25A2	"HO"	"EIGHT"	""	"N"	"N"	"N"	"N"	"N"
11	25A3	"HO"	"NINE"	""	"N"	"N"	"N"	"N"	"N"
12	25B1	"HO"	"TEN"	""	"N"	"N"	"N"	"N"	"N"
13	25B2	"HO"	"ELEVEN"	""	"N"	"N"	"N"	"N"	"N"
14	25B3	"HO"	"TWELVE"	""	"N"	"N"	"N"	"N"	"N"
15	25C1	"HO"	"THIRTEEN"	""	"N"	"N"	"N"	"N"	"N"
16	25C2	"HO"	"FOURTEEN"	""	"N"	"N"	"N"	"N"	"N"
17	25C3	"HO"	"FIFTEEN"	""	"N"	"N"	"N"	"N"	"N"
18	34A1	"HO"	"SIXTEEN"	""	"N"	"N"	"N"	"N"	"N"
19	34A2	"HO"	"SEVENTEEN"	""	"N"	"N"	"N"	"N"	"N"
20	34B1	"HO"	"EIGHTEEN"	""	"N"	"N"	"N"	"N"	"N"
21	34B2	"HO"	"NINETEEN"	""	"N"	"N"	"N"	"N"	"N"
22	34C1	"HO"	"TWENTY"	""	"N"	"N"	"N"	"N"	"N"
23	35	"--"	"--"	"--"	"Y"	"N"	"Y"	"N"	"N"
24									

Picture 15. An example to open the CSV File in Spreadsheet

### 5.1.5 Reports

Information Showing:

- *RCDID*
- *EmployeeID*
- *LogDate*
- *LogTime*
- *TerminalID*
- *InOut*

Sort By:

- *EmployeeID*
- *In/Out*
- *Date/Time*

Save as:

- *CSV format*

### 5.1.6 Event Log

Information Showing:

- *Time*

- *Events*

Clear Event Log

## **5.2 Menu**

### **5.2.1 Employee Viewer**

A window floating on top of the screen that shows the employee details by clicking on an employee in the Employee Viewer tab.

### **5.2.2 Employee Detail for AccessLog**

A panel showing the last accesslog record details with employee's photo.

## 6. Database Connection

iServer default use Microsoft Access. If you decide to use MS Access, no supplement changes have to be made. If you want to use other ODBC compatible database, you have to do the following things in order to get the iServer connected to the database.

### 6.1 Connecting to Database other than MS Access

At first, you need to create database, secondly you need to create Data Source Name (DSN). There are 2 kinds of databases MS SQL and Oracle we have here for your reference.

#### 6.1.1 Create Database:

You need to create a database, and create 2 tables. The Table Structure of the Default MS Access (acclog.mdb):

##### **MS Access**

##### **Table: AccessLog**

RCDID Int AUTO\_INCREMENT,  
EmployeeID char(16),  
LogDate char(10),  
LogTime char(10),  
TerminalID char(20),  
InOut Int,  
Primary Key(EmployeeID, LogDate, LogTime, TerminalID)

##### **Table: Employee**

EmployeeID char(16),  
LastName varchar(40),  
FirstName varchar(40),  
OtherName varchar(40),  
Password char(16),  
EmpStatus Int,  
NumMinutiae1 Int,

NumMinutiae2 Int,  
PhotoFile char(40),  
Minutiae1 image,  
Minutiae2 image,  
Photo image,  
Department char(50),  
Primary Key(EmployeeID)

There are some differences in the syntax of creating the table in other database like SQL Sever and Oracle. The following is for you reference.

### **SQL Server**

#### **Table: AccessLog**

RCDID Int IDENTITY yes,  
EmployeeID char(16),  
LogDate char(10),  
LogTime char(10),  
TerminalID char(20),  
InOut Int,  
Primary Key(EmployeeID, LogDate, LogTime, TerminalID)

#### **Table: Employee**

EmployeeID char(16),  
LastName nvarchar(40),  
FirstName nvarchar(40),  
OtherName nvarchar(40),  
Password char(16),  
EmpStatus Int,  
NumMinutiae1 Int,  
NumMinutiae2 Int,  
PhotoFile char(40),  
Minutiae1 image,  
Minutiae2 image,  
Photo image,  
Department char(50),  
Primary Key(EmployeeID)

The database created in SQL Server need to have a login in order to access the tables. This can be done in the step of creating the DSN later.

User Database Language:

Chinese Big5 in the Employee Name

If the employee name contained Chinese big5 characters, you need to create the MS SQL Database with collation name : Chinese. For example, Chinese\_Taiwan\_Stroke\_CS\_AS\_WS.

Unicode in the Employee Name

If the employee name contained Unicode characters, it would not be showing the correct characters language after importing employee list from iGuard™ at the moment.

### **Oracle**

#### **Table: AccessLog**

RCDID Number(38) Not Null, <- Constraint – Auto Increment field  
EmployeeID Char(16) Not Null,  
LogDate Char(10) Not Null,  
LogTime Char(10) Not Null,  
TerminalID Char(20) Not Null,  
InOut Number(38)

#### **Table: Employee**

EmployeeID Char(16) Not Null,  
LastName VarChar(40),  
FirstName VarChar(40),  
OtherName VarChar(40),  
Password Char(40),  
EmpStatus Number(38),  
NumMinutiae1 Number(38),  
NumMinutiae2 Number(38),  
PhotoFile Char(40),  
Minutiae1 BLOB,  
Minutiae2 BLOB,

Photo BLOB,  
Department Varchar2(50)

It has many methods to create a table in Oracle and to do the auto increment field(RCIDID). The following method is the most common.

iServer 2.3 or before is using char type in FirstName, LastName and OtherName fields. Version 2.4 will be used varchar in these fields.

To create an Oracle table :

1. You can use the administration tools in Oracle for table manipulation if you use version which is 8 or later, or
2. You can use sql command to create table in sql plus or sql worksheet.

To create a field for auto increment (RCIDID):

1. To create a sequence and add a constraint to a field, or
2. Create a trigger to increment the field.

The same as SQL Server, you need to have a login for the database. You must make sure the username and password is correct and the username should have right access the AccessLog and Employee. You must aware that users in Oracle have their own right to access table. If you do not have username and password, you could not enter into the Oracle database. If your username does not have any right to access the table, you could not do anything to that table even you could log in to the Oracle database. After you have the login for the database, you can test it as the following.

Testing (Optional):

1. Use SQL Plus to login as the same username and password as in iServer.
2. Try select and insert statement to that table in SQL Plus.

### **6.1.2 Create Data Source Name (DSN)**

In Control Panels -> Administrative tools -> ODBC -> System DSN -> Add

For SQL Server and Oracle database, the procedure is similar.

Please specify the Data Source Name to default "iServer".

For using SQL Server database, you can use the login username, say “sa” which has a greatest privilege, and password to create the DSN. Afterwards, you need to type in the connection parameter in the ODBC Setting Dialog box after the iServer is installed as default or you are installing the iServer. Please refer to ODBC Setting (Section 3.2) to input the parameter.

For Oracle, you can try to choose driver “Orahome” if you have and this is the way from our customer success. You also need to type in the connection parameter in the ODBC Setting and please refer to Section 3.2.

Finally, this is worked fine when you start iServer. When you are using the ODBC compatible database other than MS Access, DO NOT choose to create MS Access when it prompted you for the first run.

### **6.2 Notes when using MS SQL Server**

There are some notes when you are using MS SQL Server.

- Lock Exclusive of iServer in DB mode AccessLog Viewer  
When you have two or more iServers using the same MS SQL Database, iServer may be locked up regarding the Transisolation level is Read Committed.
- Trusted Connection  
Trusted Connection dialog is prompted by MS SQL Server. Once you are prompted to ask enabling Trusted Connection, enable it to use the Trusted Connection might get rid of the login prompt for every accesslog record when you import the AccessLog from iGuard™.