

WEINTEK LABS., INC.

# Convert Unix timestamp to date time in MS SQL

Demo Project

**Contents**

- 1. Overview and Operation ..... 1
- 2. Setting up the Screen ..... 3
- 3. Addresses ..... 10

# Convert Unix timestamp to date time in MS SQL



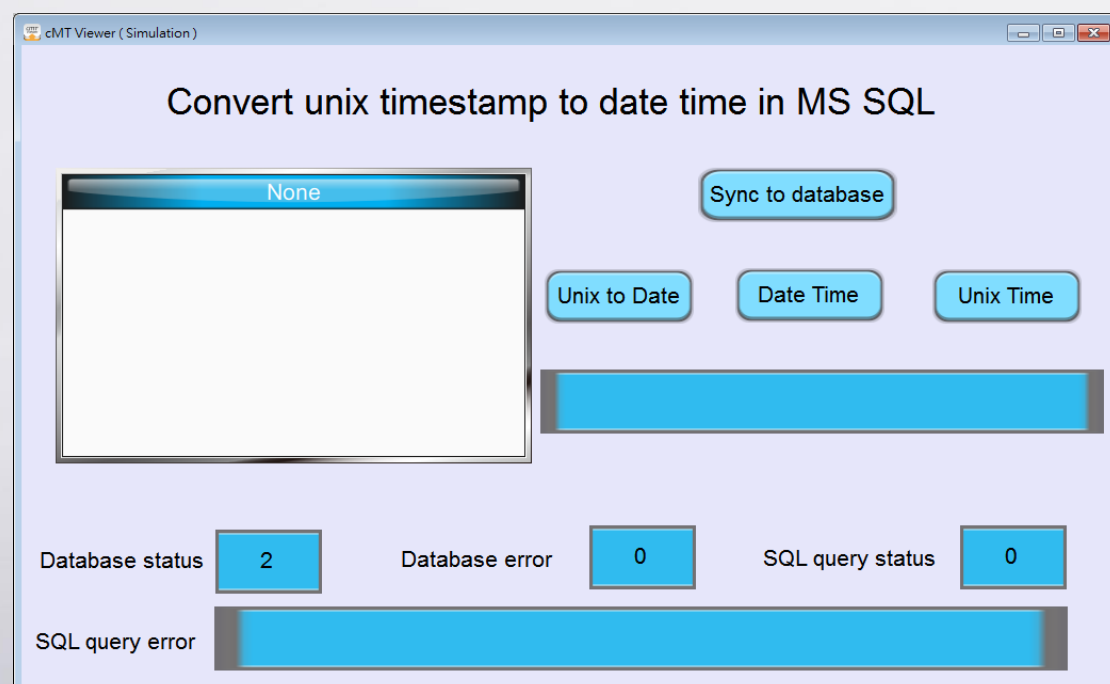
## 1. Overview and Operation

### Overview

The following demo will introduce how to synchronize Data Sampling's timestamp to MS SQL database, and then use SQL Query to convert Unix time to date time. The table of Data Sampling in MS SQL will be built automatically, and the table of SQL Query needs to be built manually.

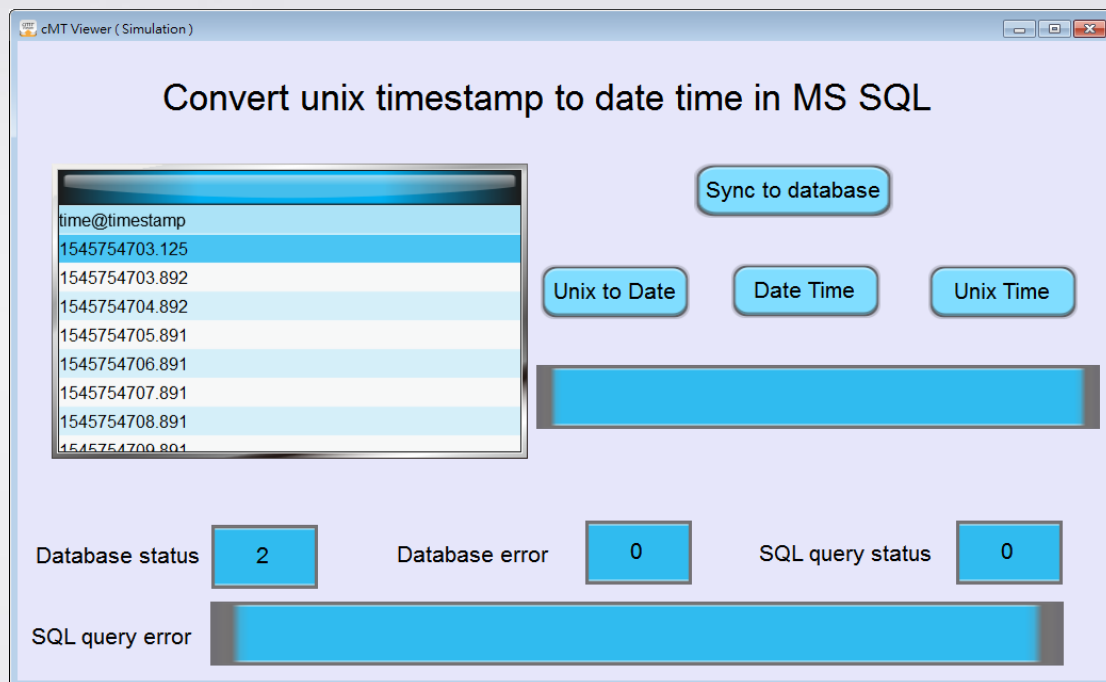
### Operation

1. Execute online simulation.
2. Press [Sync to database] to sync data sampling to MS SQL database.



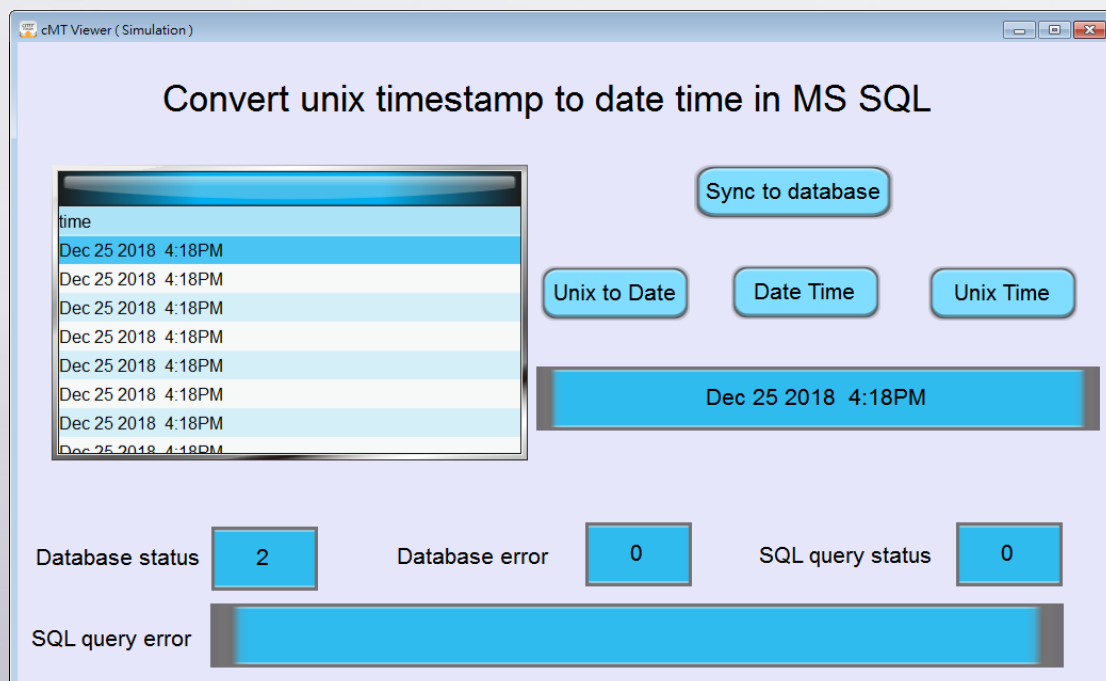
3. Press [Unix Time] to show the timestamp of Data Sampling history.

## Convert Unix timestamp to date time in MS SQL



4. Press [Unix to Date] to execute converting command.

5. Press [Date Time] to show the date time after converting.

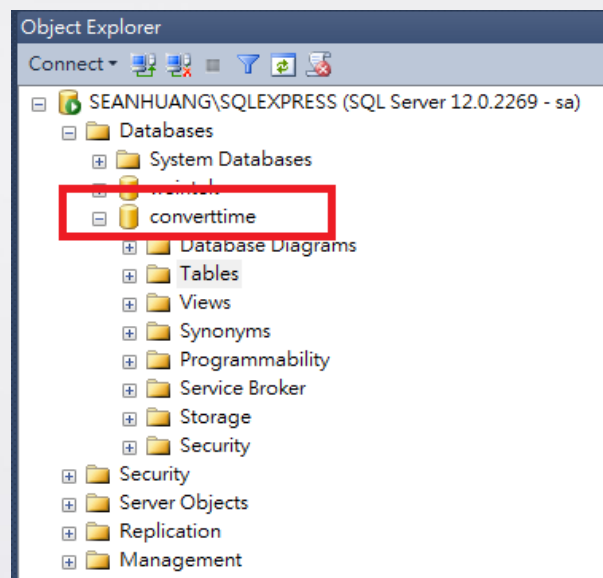


## Convert Unix timestamp to date time in MS SQL

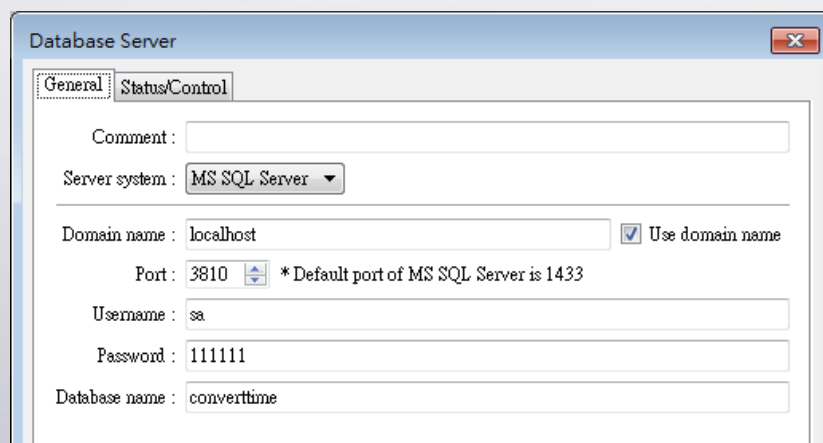


### 2. Setting up the Screen

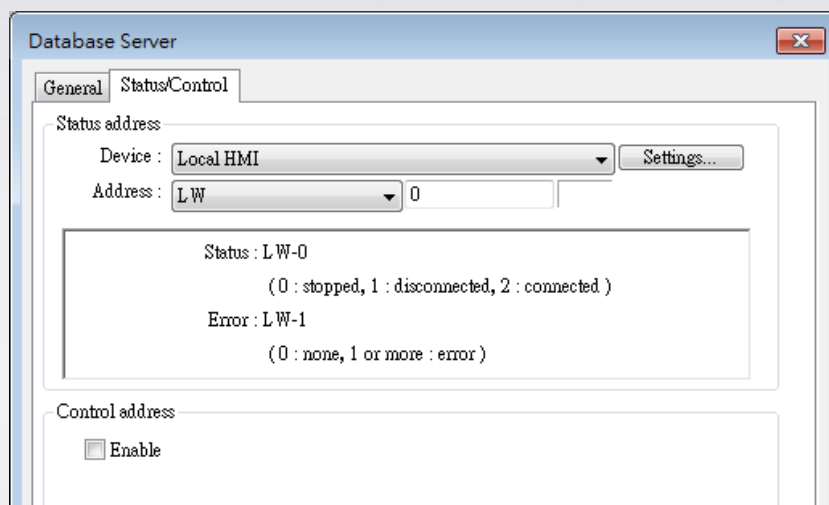
Step 1. Create a database named as converttime in MS SQL.



Step 2. Open EasyBuilder Pro, choose [Database Server] in Data/History tab and finish each setting.

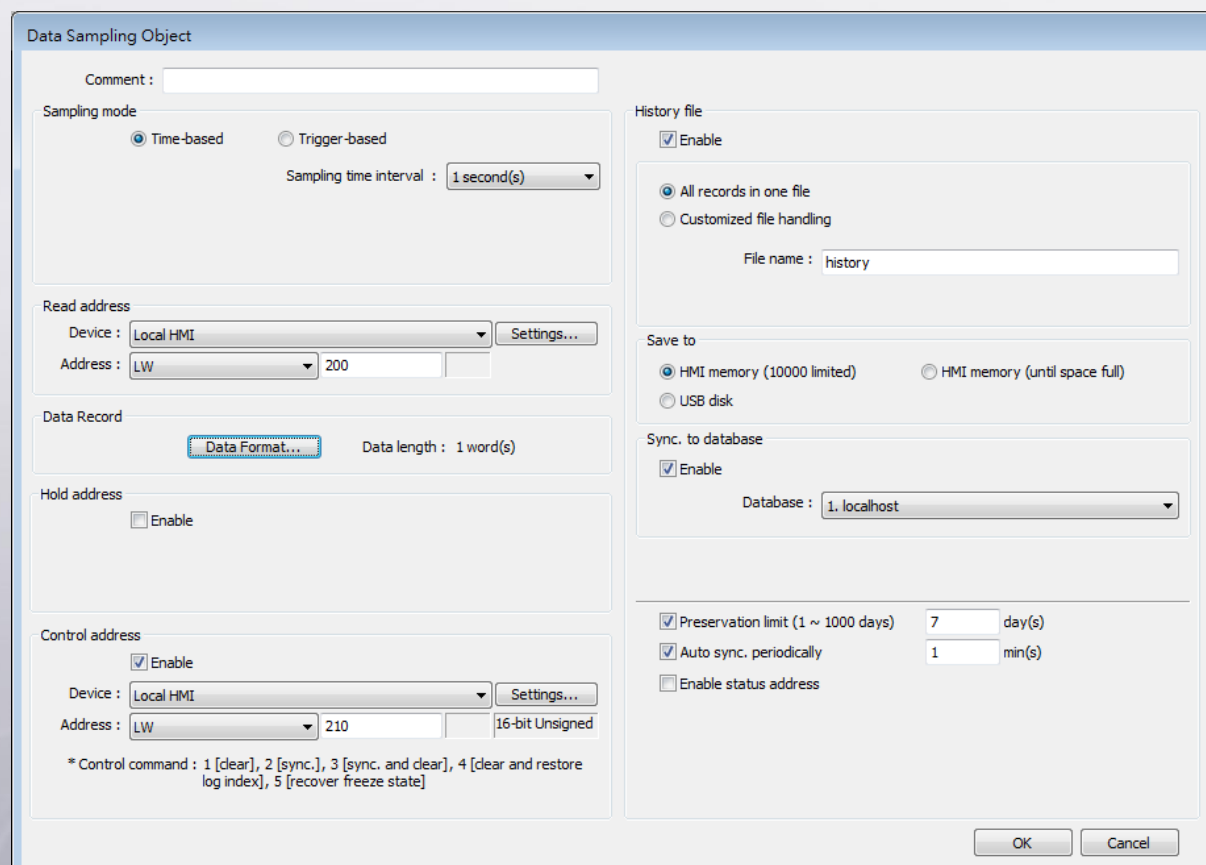


## Convert Unix timestamp to date time in MS SQL



**Step 3.** Create 2 Numeric objects in the window. LW-0 is the status address of Database Server, and LW-1 shows the error code.

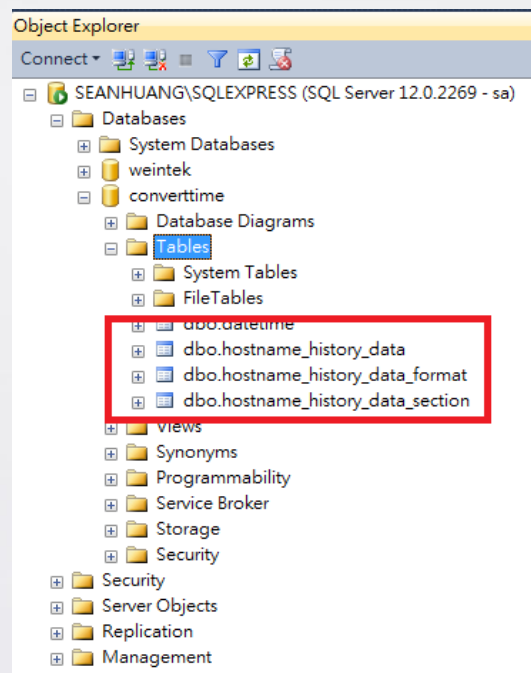
**Step 4.** Choose [Data Sampling] in Data/History tab. Create a new data sampling, select [Enable] for [History file], set [File name] as history. Enable [Sync. to database] and then set [Control address].



## Convert Unix timestamp to date time in MS SQL



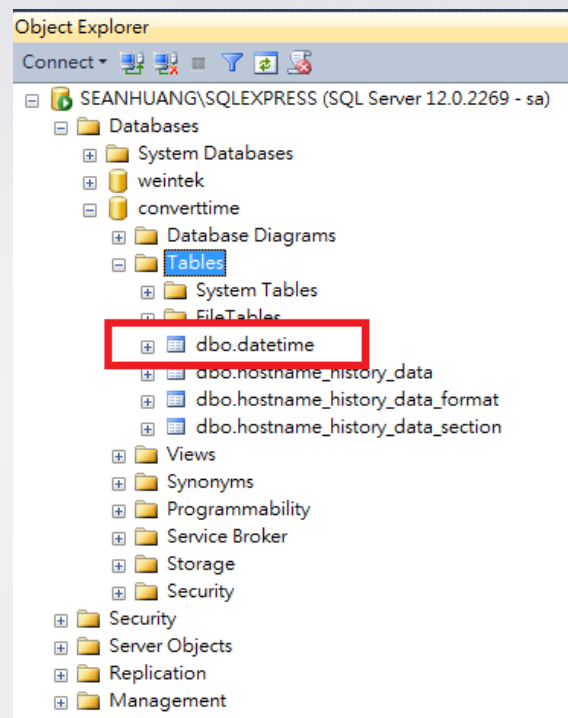
- Step 5.** Create a Set Word object and write constant value 2.
- Step 6.** Execute online simulation and press the Set Word object to sync.  
data sampling historical data to database. The table will be built  
automatically in MS SQL database.



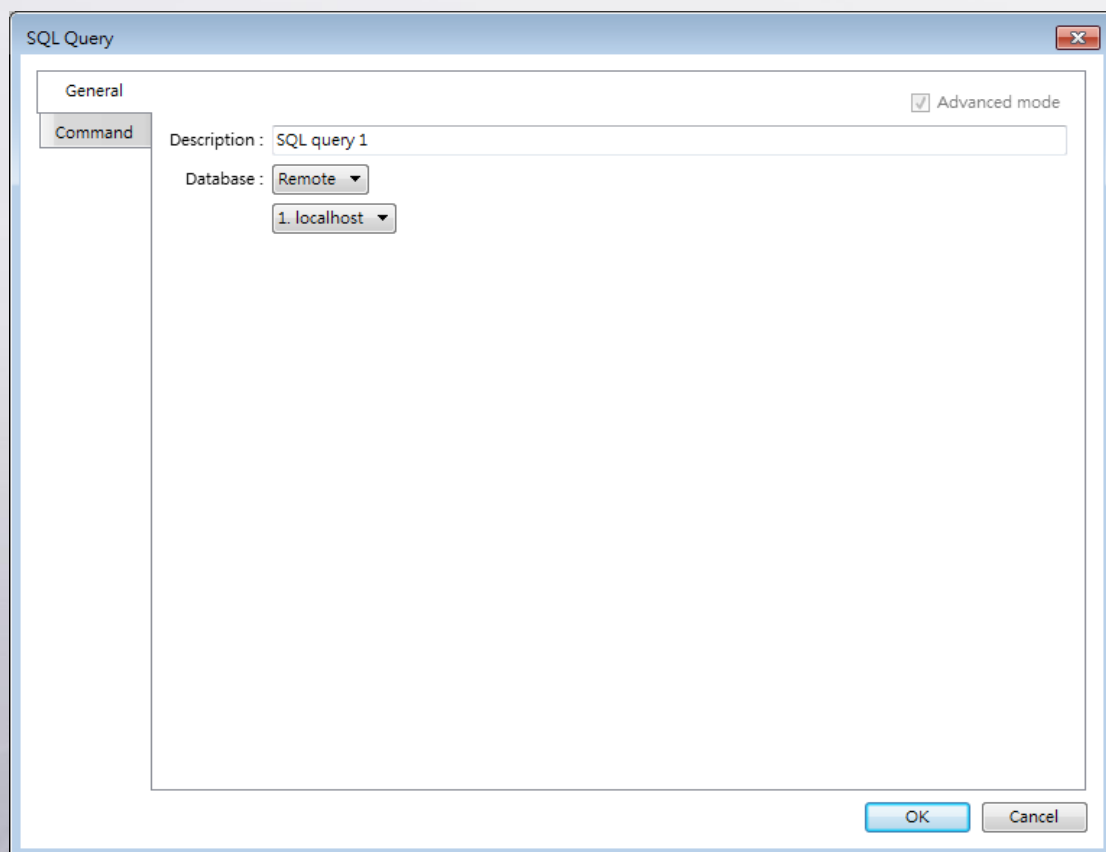
- Step 7.** Create a new table in MS SQL database. Name the Column Name as time, data format is nchar and the length is 20. Name the table as datetime.

SEANHUANG\SQLLEX... - dbo.datetime			
	Column Name	Data Type	Allow Nulls
▶	time	nchar(20)	<input checked="" type="checkbox"/>
			<input type="checkbox"/>

## Convert Unix timestamp to date time in MS SQL



**Step 8.** Back to EasyBuilder Pro, choose [SQL Query] in the [Data/History] tab. Select the checkbox of [Advanced mode] on the top right corner.



**Step 9.** Set control address in Command tab.



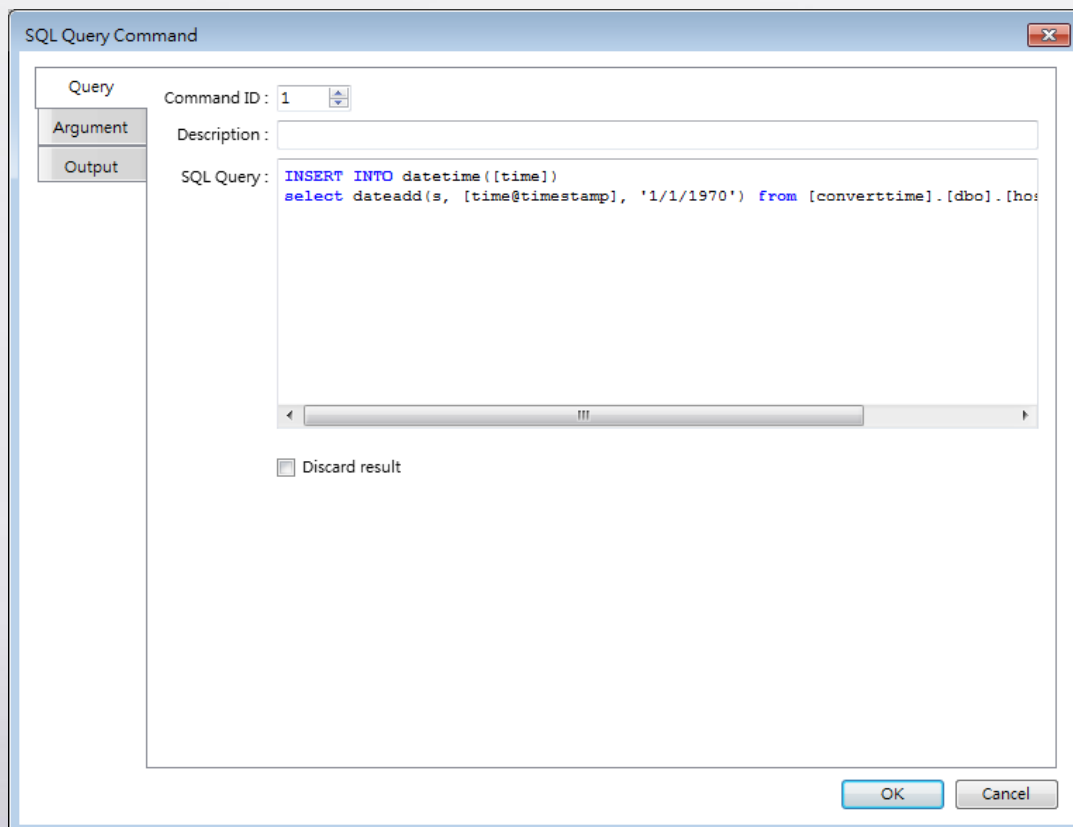
## Convert Unix timestamp to date time in MS SQL



**Step 10.** Add the first SQL command in SQL Query as follow:

```
INSERT INTO datetime([time])
select dateadd(s, [time@timestamp], '1/1/1970') from [converttime].[dbo].
[hostname_history_data]
```

This command will convert data sampling history file into date time in the column `time@timestamp` of table `hostname_history_data`. The converted time will be written into the column `time` in table `datetime`. `converttime` is database name.



**Step 11.** Add the second SQL command in SQL Query as follow to read the

data of date time: **select time from datetime**

**time** is the column name and **datetime** is the table name.

## Convert Unix timestamp to date time in MS SQL



SQL Query Command

Query Command ID: 2

Description:

SQL Query: `select time from datetime`

☐ Discard result

OK Cancel

Add LW-300 in Output tab. Data type is String and length is 20.

SQL Query Command

Output

	PLC name	Address	Address format
1	Local HMI	LW-300	String (20)

New... Delete Settings...

OK Cancel

## Convert Unix timestamp to date time in MS SQL

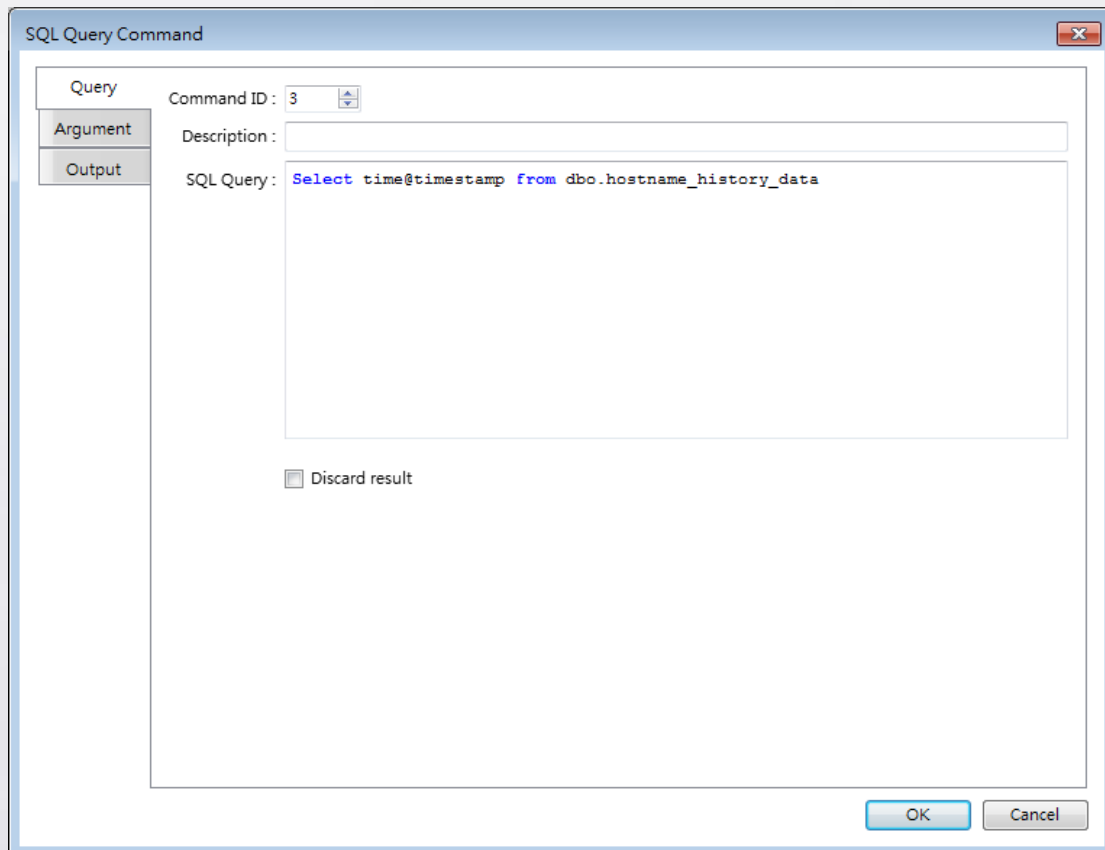


**Step 12.** Add the third SQL command to read the unix time in data sampling as

follows: **Select time@timestamp from dbo.hostname\_history\_data**

**time@timestamp** is the column name and

**dbo.hostname\_history\_data** is the column name.



**Step 13.** Create an [SQL Query Result Viewer] on the window.

**Step 14.** Create 3 Set Word objects correspond to the control address LW-100 in [SQL Query]. Writing constant value 1 will execute command ID 1 (Convert command). Writing constant value 2 will execute command ID 2, and so on.

**Step 15.** Create an ASCII object to show the command result, which is the output address LW-300 of [Command ID] 2, and the length is 20.

**Step 16.** Create a Numeric object LW-102 to show SQL Query status. Create an ASCII object LW-104 to show SQL Query error message.

## Convert Unix timestamp to date time in MS SQL



### 3. Addresses

The addresses of objects used in this demonstration are listed below.

Object	Address	Object ID	Description
Data Sampling	LW-200		Read address
Data Sampling	LW-210		Control address
Database Server	LW-0		Status address
Database Server	LW-1		Control address
SQL Query	LW-100		Control address
SQL Query	LW-102		Status address
SQL Query	LW-104		Error message address
SQL Query	LW-300		Command ID 2 Output address
Window 10			
Set Word	LW-210	SW_0	Data Sampling Control address, sync. to MS SQL
Set Word	LW-100	SW_1	Convert command, write constant value 1
Set Word	LW-100	SW_2	Read time from table datetime, write constant value 2
Set Word	LW-100	SW_3	Read time from data sampling, write constant value 3
Numeric	LW-0	NE_0	SQL server status address

## Convert Unix timestamp to date time in MS SQL



<b>Numeric</b>	LW-1	NE_1	SQL server control address
<b>Numeric</b>	LW-102	NE_2	SQL Query status address
<b>ASCII</b>	LW-104	AE_0	SQL Query error message address
<b>ASCII</b>	LW-300	AE_1	SQL Query command ID 2 output address