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• How to save the UA collected data into SQL and then show trend chart in InduSoft? (Take MySQL Installer 5.7.31 as an example)

UA series products of ICP DAS provide a useful service to transfer TCP/RTU data to SQL.

SQL is to store device data, and then by using InduSoft can retrieve the data to manage the database easily.

Due to the time format written by UA is different from the reading format of InduSoft, here is how InduSoft read data.

(In this example, we use UA-5231M-4GE + Windows 10 OS + MySQL 5.7.31 Database + DL-302 with Modbus RTU protocol)



1. How to Create MySQL Environment

1.1. Go to Microsoft Official Website to download and Install

Linkage: <u>https://support.microsoft.com/en-us/help/2977003/the-latest-supported-visual-c-downloads</u> Choose x86 version: vc_redist.x86.exe



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1.2. Go to MySO	L Official Wel	bsite to o	download an	d insta	ll the progra	m	
Linkage: <u>https://c</u>	lev.mysql.com	/downlo	ads/windows	s/install	er/5.7.html		
 ● N < M 	IySQL Comr	nunity	Downloads				
Ge	neral Availability (GA) Releases	Archives				
м	ySQL Installer	5.7.31					
Sel	ect Version:			Log	oking for the latest G	iA	
5.	7.31			~ Ver	5011		
Mi	icrosoft Windows			~			
w	indows (x86, 32-bit), M	ISI Installer	5.7.31		24.5M Dow	nload	
(m	ysql-installer-web-communit	ty-5.7.31.0.msi)	MD5	5: 8f33e6f9f8c2e	6740bd7aa4716982018 1	Signature	
w	'indows (x86, 32-bit), M	ISI Installer	5.7.31	1	509.3M Dow	nload	
(m	ysql-installer-community-5.7	7.31.0.msi)	MD5	: 0907bf6376f4	58e5539cef2a5c22fe52	Signature	
		<u> </u>		1			
	♥ IVIYSQL	Commi	unity Down	loads			

- Fast	access to MVSOL software downloads
• Dov	vnload technical White Papers and Presentations
• Post	t messages in the MySQL Discussion Forums
• Rep	ort and track bugs in the MySQL bug system
M	vSQL com is using Oracle SSQ for authentication. If you already have an Orac
We	ab account, click the Login link. Otherwise, <u>you can signup</u> for a free account
cli	cking the Sign Up link and following the in Click here to download.



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MySQL. Installer Adding Community Choosing a Setup Type	Check Requirements The following products have failing requirements. MySQL Installer will attempt to resolve them automatically. Requirements marked as manual cannot be resolved automatically. Click on each item to try and resolve it manually.
Check Requirements Installation Product Configuration Installation Complete	For Product Requirement Status Image: MySQL Server 5.7.29 Microsoft Visual C++ 2013 Redistrib INSTL DONE Image: MySQL For Excel 1.3.8 Visual Studio 2010 Tools for Office R INSTL DONE Image: MySQL For Excel 1.3.8 Microsoft Excel 2007 or higher is not Manual Image: MySQL For Visual Studio 2.0.5 Microsoft Visual C++ 2013 Redistrib Manual Image: MySQL Visual Studio 2.0.5 Visual Studio version 2015, 2017 or 2 Manual Image: MySQL Utilities 1.6.5 Microsoft Visual C++ 2013 Redistrib INSTL DONE Image: Occupation Connector/Python (3.7) 8.0.17 Python 3.7 (64-bit) is not installed Manual
	A Back Next > Cancel
NySQL Installer	×
MySQL Installer MySQL. Installer Adding Community	 — — × Installation The following products will be installed.
NySQL Installer NySQL Installer Adding Community Choosing a Setup Type Installation Product Configuration Installation Complete	- □ × Installation The following products will be installed. Product Status Progress Notes Image: Status MySQL Server 5.7.29 Ready to Install Notes Image: Status MySQL Workbench 8.0.19 Ready to Install Notes Image: Status MySQL Workbench 8.0.19 Ready to Install Notes Image: Status MySQL Utilities 1.6.5 Ready to Install Notes Image: Status MySQL Utilities 1.6.5 Ready to Install Notes Image: Status MySQL Shell 8.0.19 Ready to Install Notes Image: Status Connector/OBE 8.0.19 Ready to Install Image: Status Image: Status Image: Status Connector/I 8.0.19 Ready to Install Image: Status Image: Status Image: Status Image: Status Connector/I 8.0.19 Ready to Install Image: Status Image: Status Image: Status Image: Status MySQL Connector/C 6.1.11 Ready to Install Image: Status Image: Status Image: Status Image: Status Image: Status Image: Status Image: Statu

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			-		×
MvSOL, Installer	Installation				
Adding Community	instantición				
	The following products will be installed.				
	Product	Status	Progress	Notes	
Choosing a Setup Type	MySQL Server 5.7.29	Complete			
Installation	MySQL Workbench 8.0.19	Complete			
Product Configuration	MySQL Notifier 1.1.8	Complete			
Installation Complete	MySQL Utilities 1.6.5	Complete			
installation complete	MySQL Shell 8.0.19	Complete			
	MySQL Router 8.0.19	Complete			
	Connector/Code 8 0 19	Complete			
	Connector/J 8.0.19	Complete			
	Connector/NET 8.0.19	Complete			
	MySQL Connector/C 6.1.11	Complete			
	MySQL Documentation 5.7.29	Complete			
	Samples and Examples 5.7.29	Complete			
	Show Details >				-
	Show Details >		<u>v</u>		
		< Back	Next >	Cancel	
MySQL Installer				- 🗆	×
MySQL Installer MySQL. Installer Adding Community	Product Configuration		-	- 🗆	×
MySQL Installer MySQL. Installer Adding Community	Product Configuration We'll now walk through a configuration wi	zard for each of the follo	- owing product	- 🗆	×
MySQL Installer MySQL. Installer Adding Community	Product Configuration We'll now walk through a configuration wi You can cancel at any point if you wish to l products.	zard for each of the folk	- owing product t configuring (- 🗆 ts. all the	×
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MySQL Installer MySQL Installer Adding Community Choosing a Setup Type Installation Product Configuration Installation Complete	Product Configuration We'll now walk through a configuration wi You can cancel at any point if you wish to l products. Product MySQL Server 5.7.29 MySQL Router 8.0.19 Samples and Examples 5.7.29	zard for each of the follo leave this wizard withou Status Ready to o Ready to o	owing product t configuring a configure configure	- 🗆 ts. all the	×
MySQL Installer MySQL Installer Adding Community Choosing a Setup Type Installation Product Configuration Installation Complete	Product Configuration We'll now walk through a configuration wi You can cancel at any point if you wish to I products. Product MySQL Server 5.7.29 MySQL Router 8.0.19 Samples and Examples 5.7.29	zard for each of the folk leave this wizard without Status Ready to (Ready to (Ready to (owing product t configuring a configure configure configure	- 🗆	×
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NySQL Installer NySQL Installer Adding Community Choosing a Setup Type Installation Product Configuration Installation Complete	Product Configuration We'll now walk through a configuration wi You can cancel at any point if you wish to l products. Product MySQL Server 5.7.29 MySQL Router 8.0.19 Samples and Examples 5.7.29	zard for each of the folk leave this wizard withou Status Ready to (Ready to (Ready to (owing product t configuring a configure configure configure	- 🗆	×
MySQL Installer MySQL Installer Adding Community Choosing a Setup Type Installation Product Configuration Installation Complete	Product Configuration We'll now walk through a configuration wi You can cancel at any point if you wish to I products. Product MySQL Server 5.7.29 MySQL Router 8.0.19 Samples and Examples 5.7.29	zard for each of the folk leave this wizard without Status Ready to a Ready to a Ready to a	owing product t configure configure configure		×
MySQL Installer MySQL Installer Adding Community Choosing a Setup Type Installation Product Configuration Installation Complete	Product Configuration We'll now walk through a configuration wi You can cancel at any point if you wish to I products. Product MySQL Server 5.7.29 MySQL Router 8.0.19 Samples and Examples 5.7.29	zard for each of the follo leave this wizard withou Ready to o Ready to o Ready to o	owing product t configuring a configure configure	- 🗆	×
MySQL Installer MySQL Installer Adding Community Choosing a Setup Type Installation Product Configuration Installation Complete	Product Configuration We'll now walk through a configuration wi You can cancel at any point if you wish to liproducts. Product MySQL Server 5.7.29 MySQL Router 8.0.19 Samples and Examples 5.7.29	zard for each of the follo leave this wizard withou Status Ready to (Ready to (Ready to (owing product t configuring a configure configure	- 🗆	×
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MySQL Installer MySQL Installer Adding Community Choosing a Setup Type Installation Product Configuration Installation Complete	Product Configuration We'll now walk through a configuration wi You can cancel at any point if you wish to l product MySQL Server 5.7.29 MySQL Router 8.0.19 Samples and Examples 5.7.29	zard for each of the follo leave this wizard withou Ready to (Ready to (Ready to (owing product t configure configure configure	- ts. all the	×

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Standalone MySQL S	Server / Classic MvSQL Replication
Choose this option t opportunity to confi high-availability solu	o run the MySQL instance as a standalone database server with the gure classic replication later. With this option, you can provide your own tion, if required.
Sandbox InnoDB Clu	ster Setup (for testing only)
The <u>InnoDB cluster</u> te MySQL using Group F	chnology provides an out-of-the-box HA (high availability) solution for Replication.
This option enables y MySQL Server sandbo learn more.	ou to test an InnoDB cluster setup on your local computer using several ox instances. Read about <u>Sandbox Deployment of InnoDB Cluster</u> to
Client App	MySQL Shell MySQL Router
To setup and config Cluster or Add Local Server 8.0.	ure a real-world production InnoDB cluster use the Create a New InnoDB MySQL Server Instance to an InnoDB Cluster options available for MySQL
InnoDB Cluster Log	verbosity Level
The log level for Inn	oDB cluster configuration. MEDIUM V
	<u> </u>
	Next > Cancel
<u> </u>	
MySQL Installer	. P. 1
0	
MySQL. Installer	Type and Networking
MySQL Server 5.7.29	Server Configuration Type Observe the correct server configuration tone for this M-SOL Server installation. This setting will
	define how much system resources are assigned to the MySQL Server instance.
High Availability	Config Type: Development Computer ~
Type and Networking	Connectivity
Accounts and Roles	Use the following controls to select how you would like to connect to this server.
Windows Service	MySQL Default
Anely Configuration	Named Pice Pice Name: MYSQL
	Shared Memory Memory Name: MVSQL
	Advanced Configuration
	Select the check box below to get additional configuration pages where you can set advanced and logging options for this server instance.

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Repeat Password	••••		
nepcat i assivora.	Password streng	th: Weak	
MySQL User Accounts	inte for vour upon	ad applications Assist a re-	la ta tha usar that
consists of a set of privile	ges.	nd applications. Assign a ro	le to the user that
MvSOL User Name	Host	User Role	Add Use
L chris	%	DB Admin	Edit Use
L chris	%	DB Admin	Edit Use
L chris	%	DB Admin	Edit Use Delete
L chris	%	DB Admin	Edit Use Delete
L chris	%	DB Admin	Edit Use Delete

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myster server sinies	Configuration Steps Log
	 Writing configuration file
High Availability	 Updating Windows Firewall rules
Type and Networking	 Adjusting Windows service
Accounts and Roles	 Initializing database (may take a long time)
Windows Service	O Starting the server
Apply Configuration	 Applying security settings
rippiy comiguration	 Creating user accounts
	 Updating the Start menu link
	л
	< Back Execute Can

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Apply Co	nfiguration	
The configurat	ion operation has completed.	
Configuration	Steps Log	
𝗭 Writ	ing configuration file	
🧭 Upd	ating Windows Firewall rules	
🧭 Adju	usting Windows service	
𝗭 Initi	alizing database (may take a long time)	
♂ Star	ting the server	
🧭 Арр	lying security settings	
🧭 Crea	ting user accounts	
🧭 Upd	ating the Start menu link	
The configurat	tion for MySQL Server 5.7.29 was successful.	
The configural Click Finish to	tion for MySQL Server 5.7.29 was successful. continue.	Ŷ
The configurat Click Finish to	tion for MySQL Server 5.7.29 was successful. continue.	Finish
The configural Click Finish to	tion for MySQL Server 5.7.29 was successful. continue.	Finish
The configurat Click Finish to	tion for MySQL Server 5.7.29 was successful. continue.	Finish
The configurat Click Finish to	tion for MySQL Server 5.7.29 was successful. continue.	Finish X
The configura' Click Finish to	tion for MySQL Server 5.7.29 was successful. continue. Product Configuration	Finish X
The configura Click Finish to MySQL Installer MySQL. Installer Adding Community	tion for MySQL Server 5.7.29 was successful. continue. Product Configuration We'll now walk through a configuration wizar	Finish d for each of the following products.
The configura' Click Finish to MySQL Installer MySQL. Installer Adding Community	tion for MySQL Server 5.7.29 was successful. continue. Product Configuration We'll now walk through a configuration wizar	d for each of the following products.
The configura Click Finish to MySQL Installer MySQL. Installer Adding Community Choosing a Setup Type	tion for MySQL Server 5.7.29 was successful. continue. Product Configuration We'll now walk through a configuration wizar You can cancel at any point if you wish to leav products.	Finish d for each of the following products. ve this wizard without configuring all the
MySQL Installer MySQL. Installer Adding Community Choosing a Setup Type Installation	tion for MySQL Server 5.7.29 was successful. continue. Product Configuration We'll now walk through a configuration wizar You can cancel at any point if you wish to leav products. Product	d for each of the following products. ve this wizard without configuring all the Status
The configura Click Finish to MySQL Installer MySQL. Installer Adding Community Choosing a Setup Type Installation Product Configuration	tion for MySQL Server 5.7.29 was successful. continue. Product Configuration We'll now walk through a configuration wizar You can cancel at any point if you wish to leav products. Product MySQL Server 5.7.29 MySQL Router 8.0.19	d for each of the following products. ve this wizard without configuring all the Status Configuration complete. Ready to configure



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WSQL Installer	×
MySQL. Installer Samples and Examples	Connect To Server
	Select the MySQL server instances from the list to receive sample schemas and data.
Connect To Server	Show MySQL Server instances that may be running in read-only mode
Apply Configuration	Server Port Arch Type Status ✓ MySQL Server 5.7.29 3306 X64 Stand-alone Server Connection succeeded.
	Check status to confirm the connection
	Provide the credentials that should be used (requires root privileges).
	Click "Check" to ensure they work. User name: root Password
	Check Click check to test the connection
	2
	Next > Cancel
MySQL Installer	X
MySQL Installer MySQL. Installer Samples and Examples	- C X Apply Configuration Click [Execute] to apply the changes Configuration Steps Log
MySQL Installer MySQL. Installer Samples and Examples	- C × Apply Configuration Click [Execute] to apply the changes Configuration Steps Log Configuration Steps Log Checking if there are any features installed that need configuration.
MySQL Installer MySQL. Installer Samples and Examples Connect To Server	 - X Apply Configuration Click [Execute] to apply the changes Configuration Steps Log Checking if there are any features installed that need configuration. Running Scripts
MySQL Installer MySQL. Installer Samples and Examples Connect To Server Apply Configuration	 - X Apply Configuration Click [Execute] to apply the changes Configuration Steps Log Checking if there are any features installed that need configuration. Running Scripts
MySQL Installer MySQL. Installer Samples and Examples Connect To Server Apply Configuration	 × Apply Configuration Click [Execute] to apply the changes Configuration Steps Log Checking if there are any features installed that need configuration. Running Scripts
MySQL Installer MySQL. Installer Samples and Examples Connect To Server Apply Configuration	 × Apply Configuration Click [Execute] to apply the changes Configuration Steps Log Checking if there are any features installed that need configuration. Running Scripts
MySQL Installer MySQL. Installer Samples and Examples Connect To Server Apply Configuration	 × Apply Configuration Click [Execute] to apply the changes Configuration Steps Log Checking if there are any features installed that need configuration. Running Scripts
MySQL Installer MySQL. Installer Samples and Examples Connect To Server Apply Configuration	 × Apply Configuration Click [Execute] to apply the changes Configuration Steps Log Checking if there are any features installed that need configuration. Running Scripts
MySQL Installer MySQL. Installer Samples and Examples Connect To Server Apply Configuration	 - X Apply Configuration Click [Execute] to apply the changes Configuration Steps Log Checking if there are any features installed that need configuration. Running Scripts
MySQL Installer MySQL. Installer Samples and Examples Connect To Server Apply Configuration	- C × Apply Configuration Click [Execute] to apply the changes Configuration Steps Log Checking if there are any features installed that need configuration. Running Scripts
MySQL Installer MySQL. Installer Samples and Examples Connect To Server Apply Configuration	- X
MySQL Installer MySQL Installer Samples and Examples Connect To Server Apply Configuration	- C X

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Click [Finish] to com	plete the insta	allation.					
Click [Finish] to com	plete the insta er Installer mmunity tup Type guration implete	Installation. Installation Copy Log to Start MySQ Start MySQ	Dn Complete n procedure has been c Clipboard 2. Workbench after Setu 2. Shell after Setup	ompleted.		- C	×

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1.3. Go to MySC Linkage: <u>https://dev</u>	L Official We	bsite to wnloads/c	download	and I	nstal	I MySQL O	DBC	
Choose Windows(x8	36, 32-bit), MSI I	nstaller.						
	MySQL Ins	for W For All Windo ne Package.	'indows ws Platforms.	7 1 1 1		N N		
	Starting with MySQL 5.6 the MySQL Inst	aller package replaces the	standalone MSI packages.					
	Windows (x86, 32 & 6	54-bit), MySQL	Installer MSI		Go to	Download Page >		
	Other Downloads:							
	Windows (x86, 64-bit),	MSI Installer	8.0	0.21	14.	7M Downlo	ad	
	(mysql-connector-odbc-8.0.2	1-winx64.msi)		MD5: 619f771	1a753e7da510	dbe3266e272dea3 Signa	ature	
	Windows (x86, 32-bit), (mysql-connector-odbc-8.0.2	MSI Installer 21-win32.msi)	8.0	0.21 MD5: 64df88	14. 35858d21bfe	2M Downlo	ad	
	Windows (x86, 32-bit),	ZIP Archive	8.0	0.21	14.	0M Downlo	ad	
	(mysql-connector-odbc-noin	stall-8.0.21-win32.z	ip) M	/ID5: 2cce435	ibf58d6bcae2	2492e6499552603 Signa	ature	
	Windows (x86, 64-bit),	ZIP Archive	8.0	0.21	14.	5M Downlo	ad	
	(mysql-connector-odbc-noin	stall-8.0.21-winx64	zip) N	MD5: 76932c3	3816adb9cea	d5b571068037c49 Signa	ature	
	 MySQL Login Now or Sig An Oracle Web Acco Fast access to My Download techni Post messages in Report and track 	COMMIN gn Up for a bunt provides y (SQL software of cal White Pape of the MySQL Di bugs in the My	free account. you with the follo downloads wrs and Presentations scussion Forums ySQL bug system	wnlo owing adv	ads antages:			
	usin MySQL.com is Web account, o clicking the Sig	Login > g my Oracle Wel using Oracle S :lick the Login n Up link and art my downle	account SO for authentication of the information of the info	Si for an O ation. If y you can s Click he downlo	gn Up pracle Web rou alread ignup for pad.) >> account dy have an Oracle r a free account b	y	

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 How to set Key in follow When the W Key in defau 	up UA prod ving address in t /eb UI show up, It Password: roo	lucts to the URL ba key in def ot	save Mod r: <u>http://192.</u> ault Usernam	bus RT <u>168.255.1</u> e: root	U data int	to SQL?	
$(\cdot \rightarrow C)$	× • 3 192.168.255.1 200/5200 communication Second	+ 1	Usern Passu Langu	ame : root vord : •••• uage : Engli	₹ <u>*</u> • • •	AND ★ =1	
After successful Log change your IP Add	ress, the mask, A-2200/5200 T Communicatio Das co. LTD.	em Setting and the Ga on Server ting loT] => [Netwo nteway Platform Setting	ork Setting Conve	g] => [Netw Function V ert Setting	vork Setting (L Vizard (Click here) Advanced Setting	AN1) 】 to
System Setting Controller Set Time Setting	Network Setting	Network S	etting (LAN	1) 3 Specify of Obtain of Obtain	an IP address an IP address aut	omaticallu(DHCP)	
Network Set	ting 2		IP	192	168 101	2	
Account Setti Boot	ing -		Mask	255	255 0	0	
COM Port Int	terface Setting		Gateway	192	168 . 1 .	1	
					Save		
Then click "Save	2".						

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After reload the V SQL(MariaDB)"	Veb UI page, f from the drop Function (Master (Master (Master (Master (Master (Master (Master (Master (Master (Master (Master (Master (Master (Master (Master	Wizard (Click he) - down m Wizard (Click he) Modbus TCP / I) Modbus ASCII /) Modbus RTU / I) Modbus RTU / I) Modbus ASCII / Connecting to) Modbus RTU / /) Modbus RTU / /) Modbus ASCII /	ta Log" and nenu on the u re) MOTT T MOTT JSON MOTT JSON Azure Azure Azure	choose	e "(Master) ight corner.	Modbus R	
	Data La (Master (Master (Master (Master (Master PID PID Op PID Op PID Op ID Op ID Op ID Op	Modbus RTU / 1) Modbus TCP / 1 eration eration + OPC U, stage Notify ondition Trigger	Local Data Logger Local Data Logger MS SQL MS SQL (MariaDB) MySQL(MariaDB) A Communication Conve (Line · Facebook · Twit	ersion ter)	¥		
Controller COM Port Sett	ing > Module Setti	ng 🔪 MySQ	PL / MariaDB Connect	on Setting ject	>		

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2.1. Step 1: COM Port Setting (Take DL-302 as an example)

stem Setting COM Port Interfo	ace Setting	DL-302 Setting	s
Controller Service Setting	COM Port Interface Settin	ng Page	
Fime Setting	Serial Port	ttyO2 ~	
Network Setting	Baud Rate	9600 ~	
Account Setting Boot	Data Bits	8 bits ~	
COM Port Interface Setting	Parity	None	
	Stop Bits	1 bit ~	
	Polling Rate(ms)	5000	
		Save Success.	

Address: Sets the address for a module.
Default: 1 Range: 0 ~ 255
Protocol: Sets the communication protocol.
- ModbusRTU (default) - DCON
 DCONChkSum: uses DCON protocol and enables checksum validation feature
Baud Rate
Default: 9600 Support Baud Rate: 1200/ 2400/ 4800/ 9600/ 19200/ 38400/ 57600/ 115200 (unit: bps)
Parity
Default: N,8,1 Support format: N81, N82, E81, O81
Response Delay (ms): Sets the delay time between receiving the command
and sending the data.
Default: 0 ms
Range: 0 ~ 30 (unit: ms)
Save: Saves the modification and returns to the Settings menu.
All the changes take effect immediately after saving changes.
Skip: Returns to the Settings menu without saving any changes.

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2. Step 2: Mod	lule Setting						
Controller COM Port Se	etting > Module Se	etting 📏 MS SC	QL Connection Setting	> Appl	y Connection & Enabl	e Recording Module	>
System Setting Mr	odule Setting	Platform Setting	Convert Setting	Advance	d Setting Logge	r Setting I/O St	atus.
File Setting							
Module Setting RTU Mod	lule (Master)						
Modbu; RTU Module (Master)	Modbus R	TU Module Li	ist 1 Choose Serial Port				
TCP Module (Master)		Serial Por	ttyO2		~)		
ASCII Module (Master)	L	.oad ICPDAS Modu	Select The Module	•	✓ Update ICP	DAS Module List	
мотт	Select All	No.	*Module Na	me / Nicknam	Key in Module Na	Edit	
MQTT Module		~	Name		2		
EtherNet/IP	Click to Add	Copy	nove		< 0	/ 0 >	
ICPDAS Module	Remove all		- 4	ave			
			S Co. Ltd. All Bights Br	eserved			
Controller COM Port Se	tting > Module Se	tting 🔈 MS SQ)L Connection Setting	> Appl	y Connection & Enab	le Recording Modul	e 🗲
System Setting Mo	dule Setting IoT F	Platform Setting	Convert Setting	Advance	d Setting Logge	r Setting I/O S	itatus
File Setting							
Module Setting RTU Modu	ule (Master)						
Module Setting RTU Modu	ule (Master) Modbus R	TU Module Li	st				
Module Setting RTU Modu Modbus RTU Module (Master)	ule (Master) Modbus R	TU Module Li Serial Por	st t ttyO2		~		
Module Setting RTU Modu Modbus RTU Module (Master) TCP Module (Master) ASCII Module (Master)	ule (Master) Modbus R	TU Module Li Serial Por oad ICPDAS Modul	st t ttyO2 e Select The Module	3	✓ ✓ Update ICF	PDAS Module List	
Module Setting RTU Modu Modbus RTU Module (Master) TCP Module (Master) ASCII Module (Master)	ule (Master) Modbus R L Select All	TU Module Li Serial Por oad ICPDAS Modul No.	st t ttyO2 e Select The Module *Module Nat	e ne / Nicknan	✓ ✓ Update ICF	PDAS Module List Edit	
Module Setting RTU Mode Modbus RTU Module (Moster) TCP Module (Moster) ASCII Module (Moster) MQTT MQTT Module	ule (Master) Modbus R L Select All	TU Module Li Serial Por oad ICPDAS Modul No.	st t ttyO2 e Select The Module *Module Name	e me / Nicknan	✓ ✓ Update ICF ne	PDAS Module List Edit	
Module Setting RTU Mode Modbus RTU Module (Master) TCP Module (Master) ASCII Module (Master) MQTT MQTT Module EtherNet/IP	ule (Master) Modbus R	TU Module Li Serial Por oad ICPDAS Modul No.	st t ttyO2 e Select The Module *Module Nar Narme	e me / Nicknan	v Update ICF	DDAS Module List Edit	
Module Setting RTU Mode Modbus RTU Module (Moster) TCP Module (Moster) ASCII Module (Moster) MQTT MQTT Module EtherNet/IP ICPDAS Module	ule (Master) Modbus R L Select All	TU Module Li Serial Por oad ICPDAS Modul No.	st t ttyO2 e Select The Module *Module Nar Name N	e me / Nicknan ame	v Update ICF	DAS Module List Edit Edit	
Module Setting RTU Mode Modbu; RTU Module (Master) TCP Module (Master) ASCII Module (Master) MQTT MQTT Module EtherNet/IP ICPDAS Module	ule (Master) Modbus R L Select All C C Remove all	TU Module Li Serial Por oad ICPDAS Modul No.	st t ttyO2 e Select The Module *Module Nar Name N nove	a me / Nicknan ame	v Update ICF	PDAS Module List Edit Edit	

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Module Setting RTU Module (Master) Module Content Setting		
Modbus	Module Content Setting		
RTU Module (Master)	No.	1	
	Module Name	Name	
ASCII Module (Master)	Slave ID	1	
MQTT Module	Timeout(ms)	500	
EtherNet/IP	Modbus Mapping Table Se	etting	Modbus Mapping
ICPDAS Module	Data Model	O1 Coil Status(Ox) ~	to the User Manual from the module you choose.
	Start Address	0	
	Data Number	1	
	Create Tables	Add	

Module Content Setting						
No.	The module number in the module list (Not editable here)					
Module Name	Give a name, e.g. model number or nam	ie. Default: Name.				
Slave ID	Set the module Slave ID of the UA. (Ran	ige: 1 ~ 247)				
Timeout	Set the timeout value for the module. De	fault: 500 ms				
Modbus Mappi	ng Table Setting					
Data Model	System provides 4 Modbus data models	01 Coil Status(0x)				
	"01" ~ "04" for mapping to address of	02 Input Status(1x)				
	DO, DI, AO and AI. (ex. 01: DO 03 Holding Register					
	channels, 02: DI, 03: AO, 04: AI)	04 Input Registers(3x)				
Start Address	The start address of the Modbus comma	and. <u>Note:</u> the Start				
	Address of UA is bass on 0, even if some	e modules are bass on 1,				
	here it needs to follow UA to set bass on	0.				
Data Number	The number of the Modbus address. New	ed to give enough number				
	for the DO, DI, AO, AI channels of the m	odule. Default: 1.				
Туре	This item only when the data model is 03	3 or 04. Choose the				
	suitable data type: 16-bit Short, 16-bit U	nsigned Short, 32-bit Long,				
	32-bit Unsigned Long, 32-bit Float, 64-bi	t Double.				
Create Tables	Click [Add] button, it will add a table in th	e Modbus mapping table.				

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DL-302 Modbus Address Mappings (Base 1)					
Address	Description	Attribute			
30001 ~	Analog input value of channel 0 to 5.	R			
30006	channel 0: CO ₂ in 1ppm,				
40001 ~	channel 1: relative humidity in 0.01%,				
40006	channel 2: temperature in 0.01°C,				
	channel 3:temperature in 0.01°F,				
	channel 4: dew point temperature in 0.01°C,				
	channel 5: dew point temperature in 0.01°F				

Modbus Mapping Table Setting: Modbus Mapping Table Display and Edit.

Modbus Mapping Tabl	e	Address	Nickname	Scaling	Bitwise
Coil Status(Ox)	Input Status(1x)	Holding	y Registers(4x)	Input Reg	isters(3x)
	Take data from "DL-3 Address 40001~4000 example	802 User Manual" 96 (Base1) as an		Address Number Type	0 6 Unsigned Short
	0	K Cancel			Edit

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Nickname: To set add the informat	the variable n ion.	ame and	I the descript	ion, ple	ase click the	"Nicknan	ne" to
Modbus	Mapping Table		Address	Nickn	ame Scaling	g Bitwise	
01 Coil Sto	atus(Ox)						
	Table Display	Show Hi	de				
Address	Variable name	2	Data Type		Description		
02 Input	Status(1x) Table Display	Show	de				
Address	Variable name	2	Data Type		Description		
03 Holdin	g Registers(4x)						
	Table Display	Show	de				
Address	Variable name	[Data Type S	wap	Descriptio	on	
04 Input I	Registers(3x)						
6	Table Display	Show Hi	de				
Address	Variable name	, c	Data Type S	wap	Descriptio	on	
ο	CO2	Un	signed Short				
1	RH	Un	signed Short				
2	TempC	Un	signed Short				
3	TempF	Un	signed Short				
4	Tag4	Un	signed Short				-
5	Tag5	Un	signed Short				-
			OK Cancel				
							_

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2.3. Step 3: MySQL /MariaDB Connection Setting

PID Oper Add every data	MySQL / Maria	xDB List		
List from module.	Remove	Identification Name	Status	Edit
Data Logger		Namet		
MS SQL		MySQL_CO2	Enable	Edit
MySQL / MariaDB		MySQL_RH	Enable	Edit
		MySQL_TempC	Enable	Edit

MySQL / Mari	aDB List		
Remove	Identification Name	Status	Edit
÷	Namet		
	MySQL_CO2	Enable	Edit
	MySQL_RH	Enable	Edit
	MySQL_TempC	Enable	Edit
	MySQL_TempF	Enable	Edit
	MySQL_DewC	Enable	Edit
	MySQL_DewF	Enable	Edit
	Remove	< 1 /1 >	
	Save Success.		

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Key in all information that needs to write into Database and set the MySQL content.

MySQL / MariaDB Connec	tion Settings
Identification Name	MariaDB_CO2
Database Name	chris_20200429_test
Table Name	CO2_TEST
IP	192.168.1.42
Port	3307
Account	chris
Password	••••
Log Mode	Cycle ~
Interval Seconds	5
Enable	
Test Connection	Connection

Advanced Se	Advanced Setting > Data Logger > MySQL/MariaDB – Content Setting								
Identification	User defined name to identify the database.								
Name									
Database	The name of the remote database. If the DB name not exist, it will								
Name	create one DB.								
Table Name	The IP address of the remote database. If the table name not exist, it								
	will create one table.								
IP	The Server IP and name of the remote database.								
Port	The port to link with database. Default: 3306 (for MySQL), user								
	defined.								
Account	The login name of the remote database.								
Password	The login password of the remote database.								
Interval	Set up the interval time to save the I/O data to the remote database.								
Seconds	Unit: Second.								
Enable	Check to enable the data logger to the remote database.								
	Default: check.								
Test	Click to test the connection to the remote database.								
Connection	Result: Success or Failure.								
OK / Cancel	Click "OK" to save the settings of this page.								
	Click "Cancel" to exit the setting page without saving.								

Autho 2.4.	step 4: App Modbus RTU No. *Moc	Lynn Tang Iy Connection J Module List Jule Name / Nickname	Version 1 & Enable	0.0 Recording	Date Modul	2020,4 e	Page	24 /	/ 49
2.4.	Step 4: App Modbus RTU No. *Moc	ly Connection J Module List Jule Name / Nickname	& Enable	Recording	Modul	e			
-	1				Data	base Name	All Enab	oled	
		Name	Edit	(Gro	ups)	Apply			
-			[Save]		
Vari	able Table	Details St Attribute	now Hide	Data Type		Database	Choose corresponding Database name e Nome	Enc	abled
C	02	Read	~ U	Insigned Short		CO2 (Remote)	~		
R	H	Read	~ U	Insigned Short	[RH (Remote)	~		 Image: A start of the start of
T	empC	Read	~ U	Insigned Short	[TempC (Remote) ~		~
T	empF	Read	~ U	Insigned Short	[TempF (Remote) ~		✓
T	ag4	Read	~ U	Insigned Short	[Tag4 (Remote)	~		~
T	ag5	Read	~ U	Insigned Short		Tag5 (Remote)	~		
				OK Cance			Items to Enable		

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No. *Module Name / Nicknam	ne Edit		Database Name		All Enabled				
		1 Cont	firm chosen Databa	se					
1 Name	Edit	(Group	2 Apply	~					
< 1 /1 > Save									
2.5. Step 5~6: Save/ Run th	e Project								
Click the next step [Save Project	t], the Step Box wil	l show an ar	imation as belo	w picture tha	at means				
the project is saving. When the	animation vanishe	d, the proje	ct saved comple	etely.					
Controller COM Port Setting > Module Apply Connection & Enable Recording Modu	Setting > MySQL / Maric	DB Connection Set	ting >						
After saving, the project needs This step can also via the [Syste Run the project. System Setting Module S File Setting	to execute. Click th m Setting > Contr etting loT Platfor	ie next step oller Service m Setting	[Run the Project Setting > Run F Convert Setting	:]. Project] to Sto Advanced So	op and etting				
Sustem Setting Controller Service	Setting		Click to	run the					
Controller Service Setting	Function Status		proje	ect					
Time Setting		Run Project	Run Stop	Please wait.					
Network Setting		MQTT Broker	● Run O Stop						
Account Setting		DDNS	🗌 Run 💿 Stop						
Boot									
COM Port Interface Setting									

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To check the I/O S the connection va System Setting Mod	Status, click th alue and status dule Setting IoT Pla	e "I/O st 5. atform Setting	tatus" Convert	and c	hoose T	from the lef	t-hand list.	Confirm
File Setting								
Modbu; RTU Module (Mașter)	Related Sett	ings						
No. Name Serial	Port	umber of variabl	es 10		(Upda	ited 10 points per seco	ond)	
1 Name tty	D2 Display	Update Time (m	s) 1000					
< 1 /1 >	I/O Status					1/	O Scaling	Bitwise
Modbus TCP Module	Variable Nar	ne D	ata Type		Value	Desc	ription	Status
(Master) No. Name LA	CO2	Unsi	gned Short	741				Good
< 1 / 0 >	RH	Unsi	gned Short	6479				Good
	TempC	Unsi	gned Short	2426				Good
Modbu; A\$CII Module (Ma;ter)	TempF	Unsi	gned Short	7566				Good
No. Name Serial	Port DewC	Unsi	gned Short	1720				Good
< 1 / 0 >	DewF	Unsi	gned Short	6296				Good

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3. After transferring UA data into MySQL, how to combine Date and Time column in the MySQL Server?

1. Open MySQL Workbench and log in to Database.

MySQL Work	bench
File Edit View	/ Database Tools Scripting Help
	Welcome to MySQL MySQL Workbench is the official graphical user interface (GUI) tool create and browse your database schemas, work with database of design and run SQL queries to work with stored data. You can also m database vendors to your MySQL data
	Browse Documentation > Read the Blog >
÷	
	MySQL Connections ⊕ ⊗
	Local instance MySQL57 1 root 1 localhost 3306 Open MySQL Workbench Log in to Database
🔊 Conne	ect to MySQL Server × Please enter password for the following service:
5	Service: Mysql@127.0.0.1:3306
Es	Service: Mysql@127.0.0.1:3306 User: root
Workben	Service: Mysql@127.0.0.1:3306 User: root Password:
Workben	Service: Mysql@127.0.0.1:3306 User: root Password: Save password in vault
Workben	Service: Mysql@127.0.0.1:3306 User: root Password: Save password in vault OK Cancel

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2. After log into Database, confirm if data from DL-302 is successfully show in the Schemas.



MRTU No.1 Name ALCO2

MRTU_No. 1_Name_ALCO2

MRTU No. 1 Name ALCOZ

688

688

688

6000

6000

6000

2020/03/26

2020/03/26

2020/03/26

Name Value

11:19:36

11:19:41

11:19:46

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3. Right click new table.	Lynn Tang to database table Later we will con lavigator CHEMAS	e that UA nbine the	1.0.0 transfer data column in th L File 9° SQL F SQL F SQL F 1 • SELECT *	a; choo: nis new	se "Create" Table.	Page Table" to o o2_change Limit to 5 ble_co2;	add a		
	Tables Create T Create T Create T Search T Table De Refresh Capre_cc table_tf trend001	able able Like [able Data ata Import Wizar All	rd	ise to crea	te new table				
Column Name O DateTime O Name O Value O Status	Table Name: co2_chang Charset/Collation: latin 1 Comments: 1. Ke Datatype e DATETIME CHAR(10) CHAR(10) CHAR(9)	ye y in Table na PK	sd in1_bin v En ame	arian ari	Default/Expression NULL NULL NULL NULL NULL				
Column N Charset/Colla Comm	2. Fill in Column N ame: Ition: ents: dexes Foreign Keys Triggers	Partitioning	Datatype Data Type: Default: Storage:	Virtual Primary Ke Binary Auto Incre	Stored y Not Null ment 3. Click to	Unique D Apply Apply Revert			

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4. Copy & Paste	following coc	le into SC	QL File. Press	Ctrl+Sh	iift+Enter to	run this cc	de.
DELIMITER // CREATE TRIGGER	test						
AFTER INSERT							
ON database	_dl302.table_d	:02					
FOR EACH RC	WC						
BEGIN							
INSE	RT INTO data	base_dl3	02.co2_chan	ge (Date	eTime , Nam	e ,Value ,St	atus)
VALU	JES (concat(ne	ew.Date,'	',new.Time) ,	new.Na	me ,new.Va	lue ,new.St	atus);
END //							
Descriptions (Adju	ustable regarc 802; => Nar	ling to di me of Da	fferent cases tabase)			
CREATE TRIGGER	test => Tri	gger nan	ne created				
ON database_dl3	02.table_co2	=> Tab	ble of trigger				
INSERT INTO data and column writte	abase_dl302.c en into	o2_chang	ge (DateTime	e , Name	e ,Value ,Stat	cus) => da	atatable
VALUES (concat(r triggered, tempor	new.Date,' ',ne rary table tran	w.Time) , sfer data	new.Name ,r in	new.Valu	ue ,new.Stat	us); While	

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5. Unfold Table to confirm the TRIGGER successfully created.



W E database ditto		2. Selec	ct here	2	-	°'	٢	
Tables		5	ſ			3. Cho	oose ro	w numbers
► mercha	Select Rows - Lan	ut 50000	4.	Press Ctrl+Shift+Ente	er	-		
salesre	Table Inspector		1 +0					
Table_C	Consta Clinhour		10	run		THE LOCAL		
Figure Cot	сорую сарова		1			1 Des With	ip cei cona	eutr 70
For	Table Data Expor	t Winard	-	reation	value	Status		
The Trie	Table Data Impor	Winard	29:49	MRTU_No.1_Name_AI.CO2	708	GOOD		
11	Send to SOL Edit	1 1	29:54	MRTU_No.1_Name_AI.CO2	709	GOOD		
table_c			29:59	MRTU_No.1_Name_AI.CO2	709	GOOD		
table_i	Create Table		30:04	MRTU_No.1_Name_ALCO2	709	GOOD		
table_r	Create Table Like	2 K	30:09	MRTU_No.1_Name_AI.CO2	709	GOOD		
table_t	Alter Table		30:19	MRTU_No.1_Name_ALCO2	708	6000		
table_t	Table Maintenant		30:24	MRTU_No.1_Name_ALCO2	708	GOOD		5. Confirm if
PET Manue	Table Magnienaux	110	30:29	MRCTU_No.1_Name_AL.CO2	708	GOOD		Trigger is
P Stored Pro	Drop Table		30:34	MOTU No. 1_Name_ALCO2	707	6000		completed
Eunctions	Truncate Table		20:39	MOTU No.1 Name_ALCO2	707	0000		Sector Sector Sector
sakila		-	30.49	MPTLI No. 1 Name ALCO2	706	6000		
sys	Search Table Date	7	30.54	MRTIL No. 1 Name AI CO2	706	6000		
Administration Sch	Refresh All		30.59	MRTIL No. 1 Name ALCO2	206	6000		
		2020-04-08 1	7:31:04	MRTU No.1 Name ALCO2	706	GOOD		
Information		2020-04-08 1	7:31:09	MRTU No.1 Name ALCO2	706	GOOD		
		2020-04-08 1	7:31:14	MRTU No.1 Name ALCO2	705	GOOD		
Table: co2_chang	e	2020-04-08 1	7:31:19	MRTU No.1 Name ALCO2	704	GOOD		
2000 2000 CO		2020-04-08 1	7:31:24	MRTU No.1 Name AI.CO2	704	GOOD		
Columns:	1 5				10000			

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4. How InduSoft read data in SQL?

Before setting InduSoft to read SQL in this section, please make sure that the remote MySQL database access function of InduSoft (IWS) has configured. If it has not configured, please complete it first. You can refer to the appendix in the end of this FAQ to configure.

4.1 Appendix: How IWS access remote MySQL database through ODBC

Steps InduSoft to read SQL:

1. After completing the ODBC settings, enter InduSoft and click on the image of the trend graph in Graphics



- 2. Double-click the trend chart to open the object properties window
- 3. Press [Data Sources], click [New], enter the name, and then press the [Create] button

· ·			
I rend Control	Toolbar	Advanced	● Fill
Hint:	Axes	Legend	Background
Heplace Hint	Points	Data Sources	Border Type: Sunken

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6. After clicki	ing [Microsof content of [Cc Provide Specif 1. S 3. E	Version t OLE DB F T GLE DB F T The second s	1.0.0 Provider for C ■ 全部 I: r(s) 0 OLE DB Provider DB Driver for SQL Server DB Provider for ODBC Drivers DB Provider for SQL Server Rest for SQL Server DB Provider for SQL Server DB Provider for SQL Server DB Provider for SQL Server	ices DBC D DBC D ices ice	I 2020,4 rivers], click	Next	 JK]

Author Lynn Tang Version 1.0.0 Date 2020,4 Page 36 8. After selecting the data table to be read, press [OK] Image: Database Configuration X Image: Database Configuration X Settings Database: Primary Image: Database Image: Database Configuration X	
8. After selecting the data table to be read, press [OK]	/ 49
Connection string: Provider=MSDASQL.1; Data Source=m User name: chris Password: ●●●● Retry Interval: 120 Secs. Advanced Table	/ 49
9. Click [Advanced]	
Settings Database: Pimary Use project default Connection string: Provider=MSDASQL.1; Data Source=m User name: chris Password: Password: Password: Image: Provider=MSDASQL.1; Data Source=m User name: chris Password: Password: Image: Provider=MSDASQL.1; Data Source=m User name: chris Password: Image: Provider=MSDASQL.1; Data Source=m I	

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10. Select [Tir	me Zone] opt	ion as [Lo	ocal Time] (cho	oose ac	cording to p	personal sit	uation)
Ĩ	Advanced					×	
	Time Stamp Time Zone:	<u> </u>	Millised	onds:	~		
	Database Gal		C TOUCH				
	Host: 127.0.0).1		Port	3997		
	Disable Prim	ary Keys	🗌 Disab	le SQL va	ariables		
	Uisable Delii	miters	(DK	Cancel		
L				-			
11. Double-cl	lick the trend	chart to c	open the obje	ect prop	erties wind	ow and click	(Points]
Object	Properties					×	
249-	Replace	Hint:		Tre	end Control	~	
	Points		Axes		Toolbar		
	Data Sources		Legend		Advanced		
Border	r Type: Sunker		Backg	round No Fill	● Fill		

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12. After selecting and filling in the Data Source and Tag/Field to be used, click [OK]



13. Finished!



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4.1. Appendix: How IWS access remote MySQL database through ODBC

Step 1 : Installation Environment (This example uses following PC Environment)

- (1) Server: Install MySQL Workbench
- (2) Client: Install ODBC for MySQL

	Server Side	Client Side
OS Version	Windows 8.1 Professional	Windows 7 Professional
MySQL Workbench Version	v6.3.9 (MySQL Installer 5.7.18, x86 32bit) https://dev.mysql.com/downloads/file /?id=470091	N/A
InduSoft Version	N/A	v8.0.2.0
ODBC for MySQL	N/A	V5.3.8 (win32) https://dev.mysql.com/downloads/file /?id=470365

Step 2 : Open MySQL Server Remote connection Permission (Server Side)

- (1) Execute as Administrator: C:\Windows\system32\cmd.exe
- (2) Switch the document to where "MySQL.exe" located

>cd C:\Program Files\MySQL\MySQL Server version\bin
Note: version is the installed version. This example is 5.7

		×
Microsoft Windows [版本 6.3.9600] (c) 2013 Microsoft Corporation. 著作權所有,並保留一切権	瞿禾∫◎	^
C:\WINDOWS\system32>cd C:\Program Files\MySQL\MySQL	ver 5.7\bin	
C:\Program Files\MySQL\MySQL Server 5.7\bin>_		
微軟注音 半 =		~
<		> .::



(4) Enter the command to set permissions

> GRANT ALL PRIVILEGES ON *.* TO USERNAME@IP IDENTIFIED BY PASSWORD;

Remarks: USERNAME is generally the default root; if the IP set to '%', all computers can connect; PASSWORD is the connection password

Example:

mysql>GRANT ALL PRIVILEGES ON *.* TO root@172.17.20.176 IDENTIFIED BY root; Allow 172.17.20.176 to log in using account root and password root

mysql>GRANT ALL PRIVILEGES ON *.* TO root@'%' IDENTIFIED BY root; Allow all computers to log in with account root and password root

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	eate.
Steps: Protocol and Ports Action Profile Name	What type of rule would you like to create? Program Rule that controls connections for a program. Port Rule that controls connections for a TCP or UDP port. Predefined: @FirewallAPI.dll.~80200 Rule that controls connections for a Windows experience. Custom Custom rule.
Mew Inbound Rule Wiz Protocol and Ports Specify the protocols and ports to the	ard X which this rule applies.
Steps: Protocol and Ports Action Profile Name	Does this rule apply to TCP or UDP?

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Steps:	
 Rule Type 	What action should be taken when a connection matches the specified conditions?
Protocol and Ports	
Action	Allow the connection
Profile	This includes connections that are protected with IPsec as well as those are not.
 Name 	 Allow the connection if it is secure This includes only connections that have been authenticated by using IPsec. Connections will be secured using the settings in IPsec properties and rules in the Connection Security Rule node. Customize Block the connection
Prew Inbound Rule V	Vizard ×
New Inbound Rule V Profile Specify the profiles for which thi Steps: Rule Type Rule T	Vizard × is rule applies. When does this rule apply?
 New Inbound Rule V Profile Specify the profiles for which thi Steps: Rule Type Protocol and Ports Action 	Vizard × is rule applies. When does this rule apply? Domain
New Inbound Rule V Profile Specify the profiles for which thi Steps: Rule Type Protocol and Ports Action Profile	Vizard × is rule applies. When does this rule apply? Domain Applies when a computer is connected to its corporate domain.
Wew Inbound Rule V Profile Specify the profiles for which this Steps: • Rule Type • Protocol and Ports • Action • Profile • Name	Vizard × is rule applies. When does this rule apply? Domain Applies when a computer is connected to its corporate domain. Private Applies when a computer is connected to a private network location, such as a home or work place. Public Applies when a computer is connected to a public network location.

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 Action Profile Name 		Name: MySQL Description (optional): Remote connection access MySQL			
			< Back	Finish	Cancel
Windows Defender Firewal	l with Advanced Sec	curity			- 0
Windows Defender Firewal	I with Advanced Sec	curity			
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Classification	UA-Series En	glish FAQ-I	Dev-002				
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Step 4 : Set up ODBC	C Connections (C dministrator:	Client) C:\Windov	ws\SysWOW64	4\odbcad	132.exe → Ad	d	
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			< <u>上一</u> 2	步(B)	完成	取消	

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(2) Set the connection name (used by IWS) / server IP, Port / login account password / database. Press OK to close when finished

Note: The database (Schema) have to create in advance and can add using the MySQL Workbench management tool.







Classification	UA-Series Eng	jlish FAQ-	Dev-002				
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(2) Set the data (3) Successfully co	source name	(mySQL) 齊 進階 貫以連接至 0 項注接至 0 項注接至 0 項注接至 0 項注接字串(C): 用連接字串(C): 和以登錄至伺 登4編(N): P): 白密碼(B) 太使用的初始 ans to cc) → the datab	ase to ase to 。 (S) 则試連線(T 取消 etting.	上 be used (test 重新整理(R) 建立(U) 〕 〕 〕 〕 〕 〕 〕 〕) →test cor	inection