



NexAIoT Co., Ltd.

NexUA Server

User Manual

NexAIoT Co., Ltd.

Version: v1.09

Published December 2019

www.nexaiot.com

CONTENTS

Preface	1
Disclaimer	1
Acknowledgements	1
Revision History.....	1
 Chapter 1: Using the NexUA Server	2
1.1 Introduction.....	2
1.2 Installing NexUA Server	3
1.2 Launching NexUA Server.....	8
 Chapter 2: NexUA Server Basics.....	10
2.1 Status	12
2.2 Endpoints	13
2.3 Users	15
2.4 Node Config	17
2.5 NexUA ODBC SOP	21
MySQL.....	21
MSSQL.....	34
2.6 License.....	49
2.7 About.....	53

PREFACE

Disclaimer

The information in this document is subject to change without prior notice and does not represent commitment from NexAloT Co., Ltd. However, users may update their knowledge of any product in use by constantly checking its manual posted on our website: <https://www.nexaiot.com>. NexAloT shall not be liable for direct, indirect, special, incidental, or consequential damages arising out of the use of any product, nor for any infringements upon the rights of third parties, which may result from such use. Any implied warranties of merchantability or fitness for any particular purpose is also disclaimed.

Acknowledgements

The NexUA Server is a trademark of NexAloT Co., Ltd. All other product names mentioned herein are registered trademarks of their respective owners.

Revision History

Version	Date	Description
v1.04	June 2018	Initial release
v1.06	February 2019	1. Support alarm notification and historical data logging. 2. Support anonymous login.
v1.07	September 2019	1. Released NexUA version 1.20.037. 2. Support ODBC interface for MySQL and MSSQL. 3. Support online or offline activation.

CHAPTER 1: USING THE NEXUA SERVER

1.1 Introduction

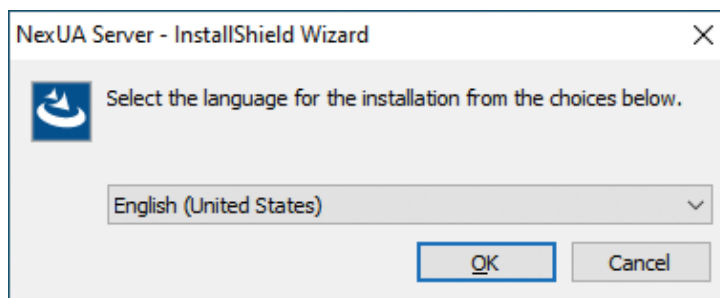
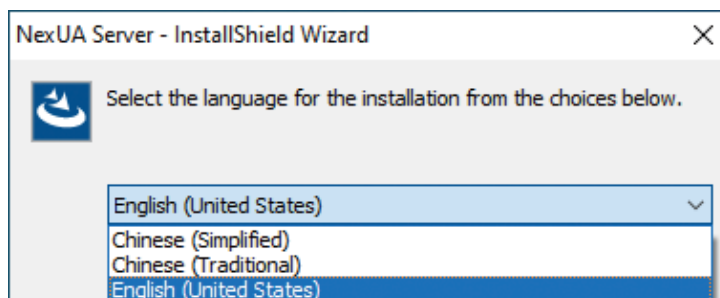
NexAloT NexUA Server is an Open Platform Communications Unified Architecture (OPC UA) server package with the focus on communicating with systems for data collection. Based on the OPC UA information model, NexAloT NexUA provides the platform required for information collection and allows users to leverage the service-oriented architecture of OPC UA to organize their complex data into an OPC UA namespace. With features such as tag subscriptions and real-time updates, NexAloT NexUA Server plays a key role as a communication portal that allows OPC UA clients to manipulate HMI or PLC data. NexAloT NexUA Server consists of a configurable GUI for parameters and settings as well as an OPC UA server service to act as a hub for gathering data and sending them to OPC UA client applications, enabling a streamlined OPC UA system operation.

Check the operating system requirement before installing the NexUA Server. The following are the supported operating systems:

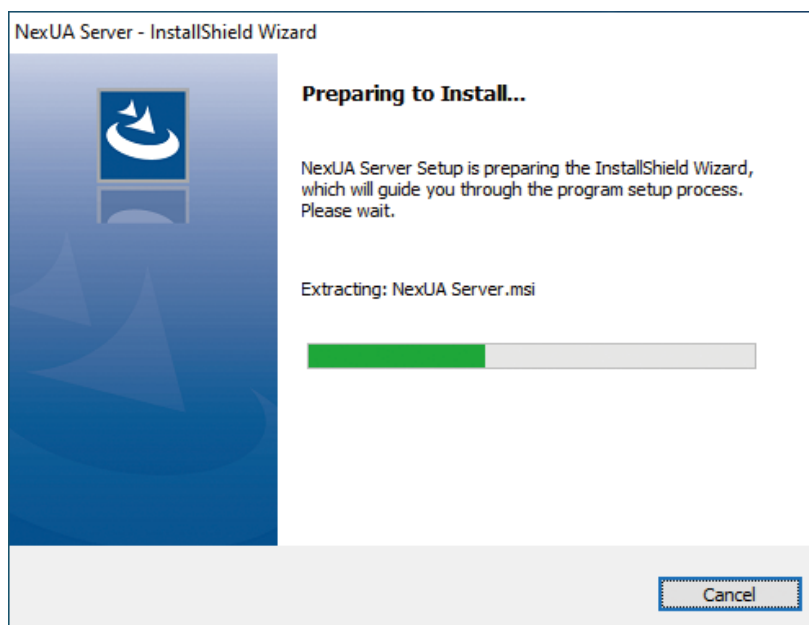
- Microsoft Windows 10, Windows 8.1, Windows 7 with Service Pack 1, Windows Embedded Standard 7 with Service Pack 1
- Microsoft Windows Server 2016, Windows Server 2012 R2

1.2 Installing NexUA Server

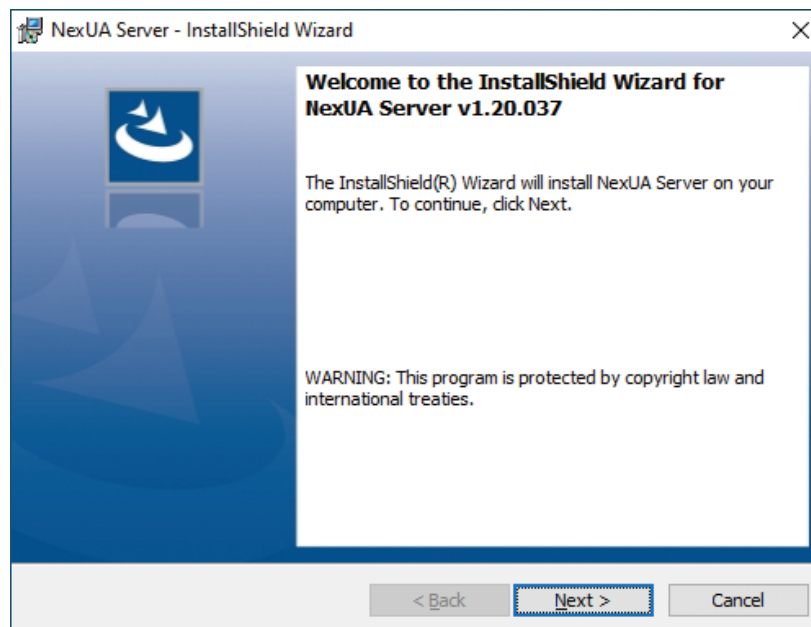
1. Double click on the filename of the NexUA Server setup file, select the language for the installation, and click **OK**.



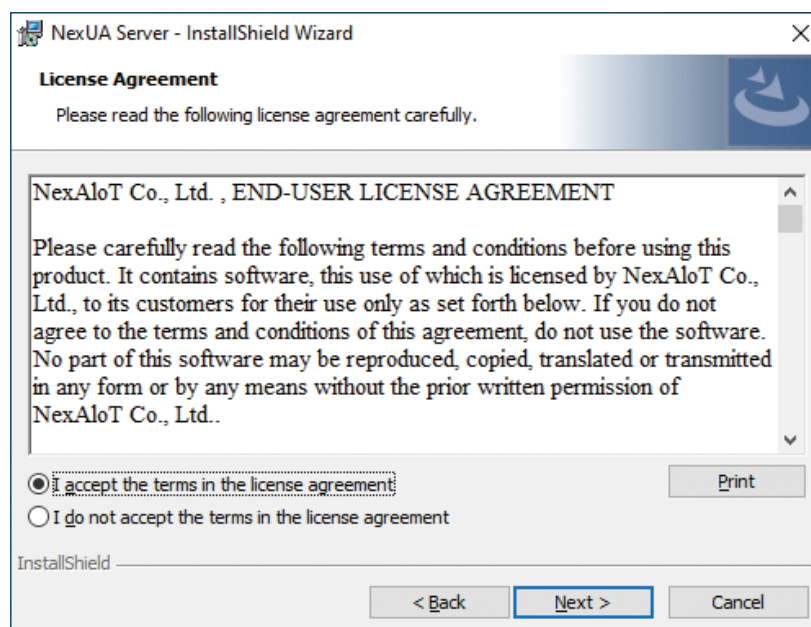
2. The installation wizard will prepare the setup process.



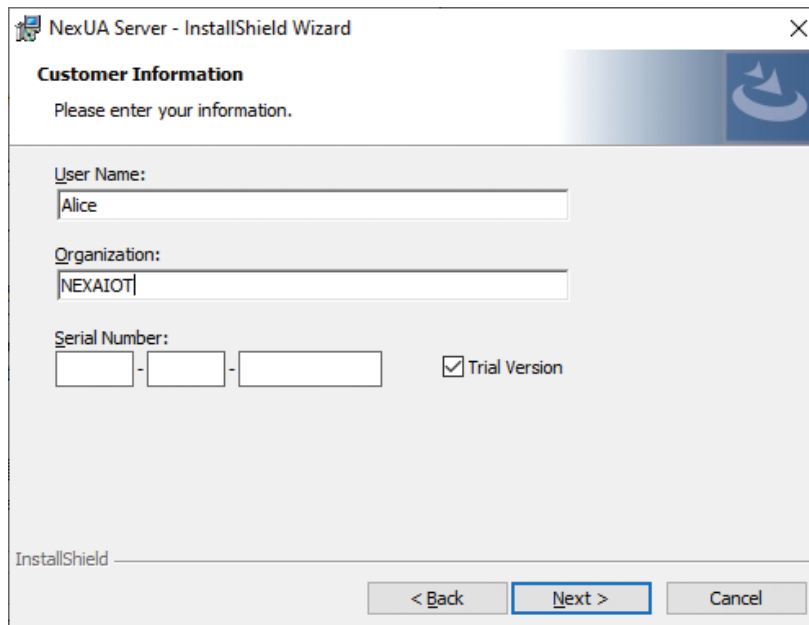
3. Click **Next** to proceed, or click **Cancel** to quit.



4. Check the **I accept the terms in the license agreement** option, and click **Next** to proceed.



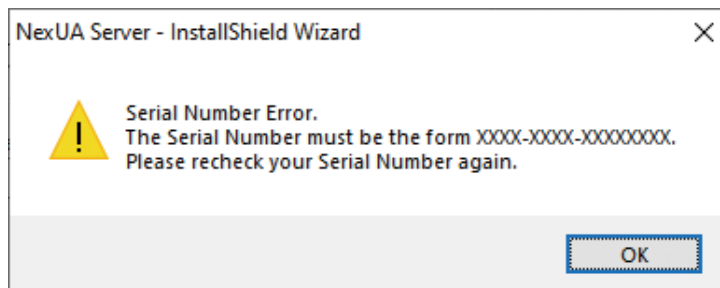
5. Enter the user information and the **Serial Number**.



The screenshot shows the 'NexUA Server - InstallShield Wizard' window. The title bar includes the application icon and the text 'NexUA Server - InstallShield Wizard'. The window has a close button (X) in the top right corner. The main content area is titled 'Customer Information' and contains the instruction 'Please enter your information.' Below this, there are three input fields: 'User Name:' with the text 'Alice', 'Organization:' with the text 'NEXAIOT', and 'Serial Number:' which consists of three separate boxes separated by hyphens. To the right of the 'Serial Number' fields is a checkbox labeled 'Trial Version' which is checked. At the bottom of the window, there is a status bar with the text 'InstallShield' and three buttons: '< Back', 'Next >', and 'Cancel'.



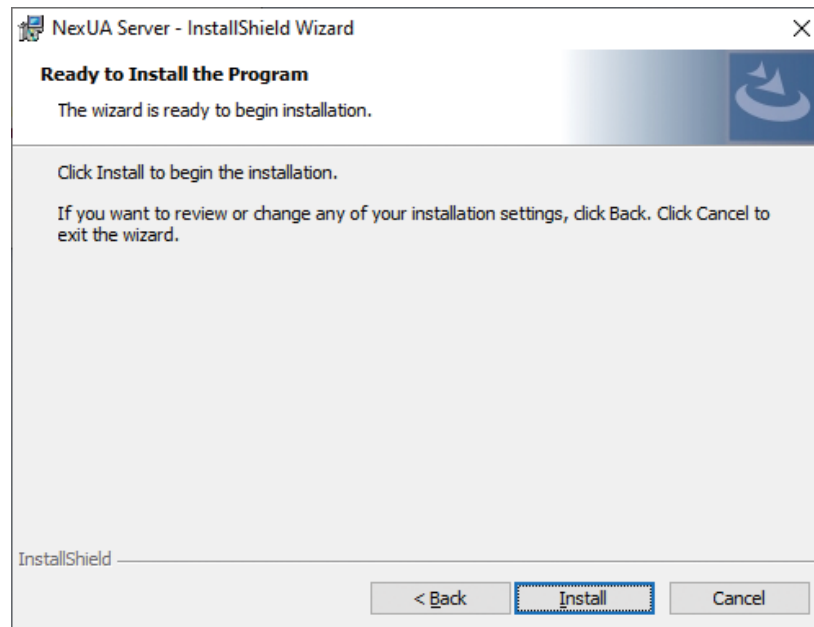
Note: You can check the **Trial Version** option and enter the serial number later. The entered product key will introduce a respective version of NexUA Server displayed on the title of the GUI.



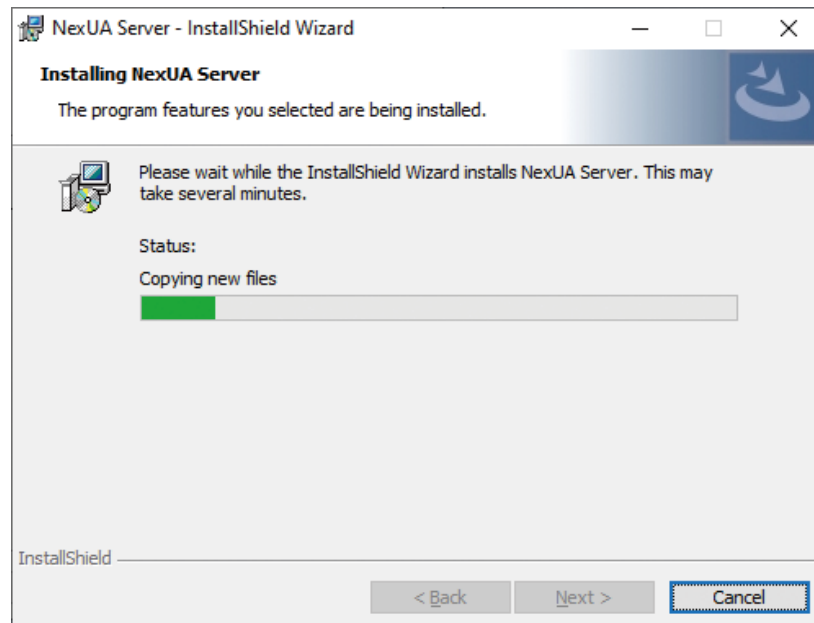
The screenshot shows a warning dialog box titled 'NexUA Server - InstallShield Wizard'. It features a yellow warning triangle icon with an exclamation mark. The text inside the dialog reads: 'Serial Number Error. The Serial Number must be the form XXXX-XXXX-XXXXXXXXXX. Please recheck your Serial Number again.' At the bottom right of the dialog is an 'OK' button.

**A warning message will be prompted if the serial number is invalid.*

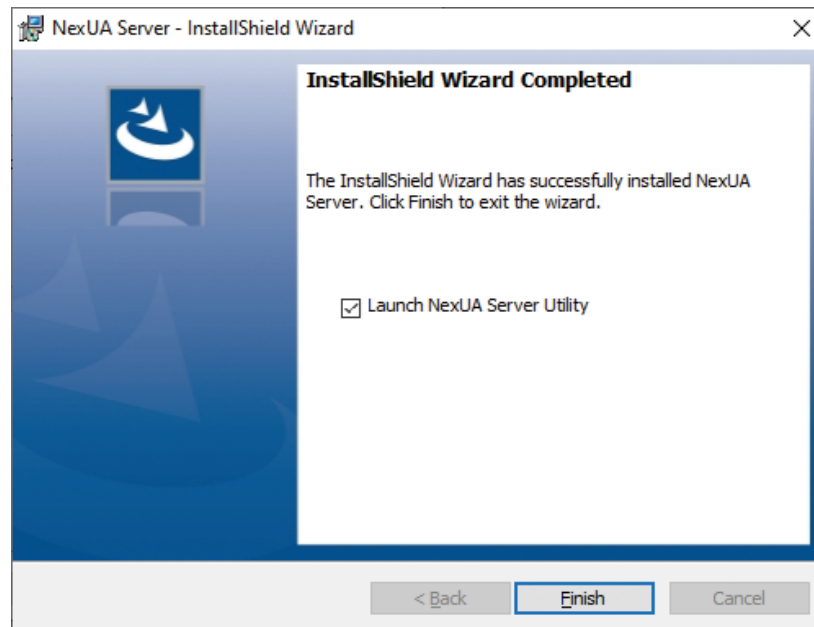
6. Click **Install** to begin installation.



7. The installation will begin and may take a while.

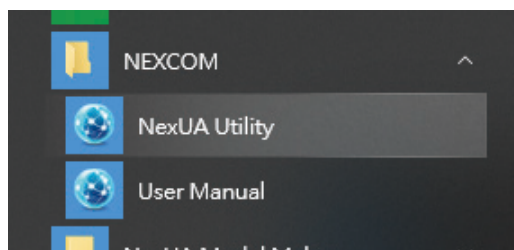


8. Once completed, click **Finish** to exit the installation wizard.



1.2 Launching NexUA Server

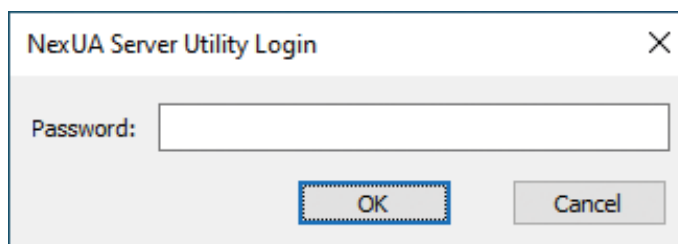
Once installed, you should be able to find the program named **NexUA Utility** in the **All Programs** list as shown.



1. Click on the icon or **NexUA Utility** to launch NexUA Server.

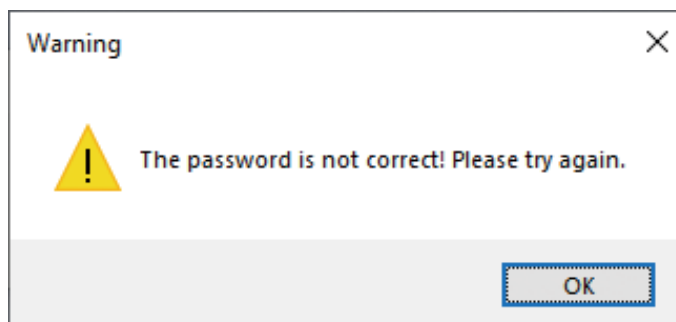
**Actual location varies from operating systems. The screenshot above depicts the program in Windows 7.*

2. Enter the password in the respective field and click **OK**.



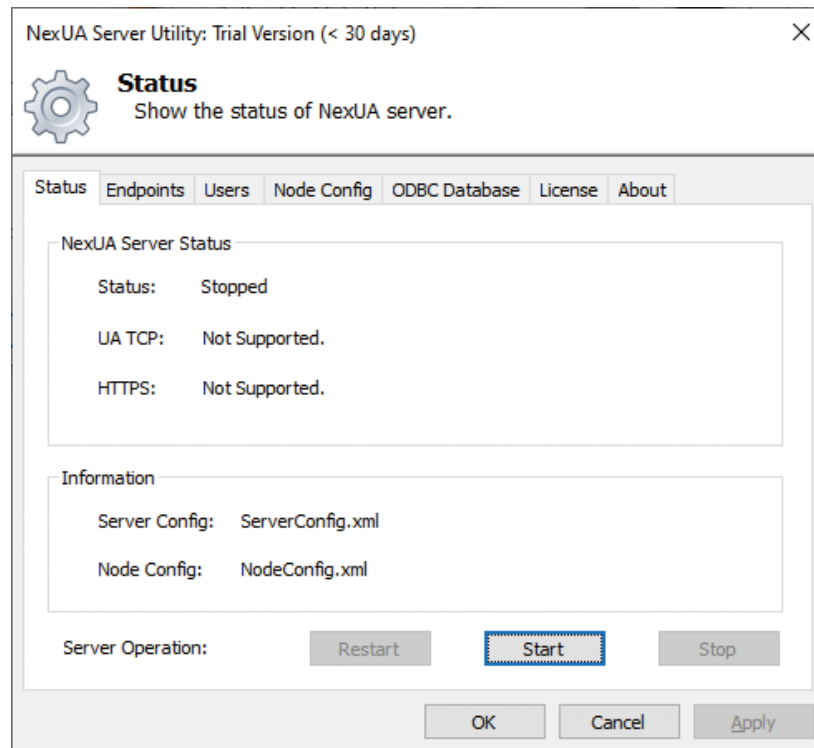
Note:

1. Use the default Password: 0000 to log in if you are logging in for the first time.
2. Remember to change the password frequently and keep it in a safe place to avoid hacking. Refer to 2.4 License for setting the password.



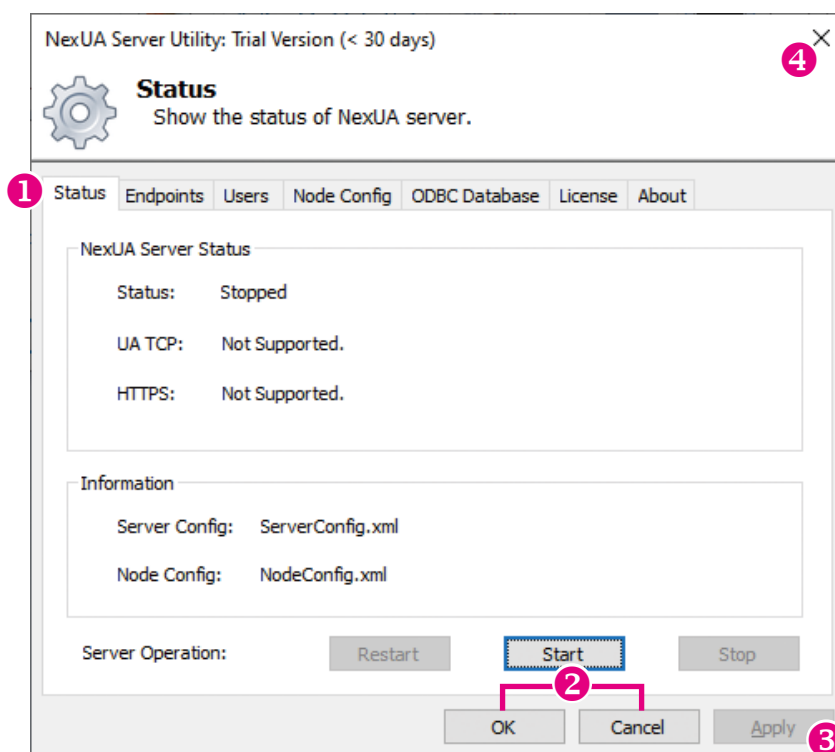
**A warning message will be prompted if an incorrect password is entered.*

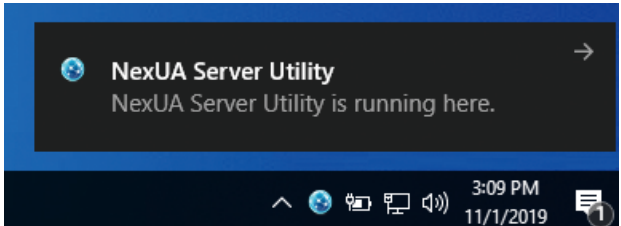
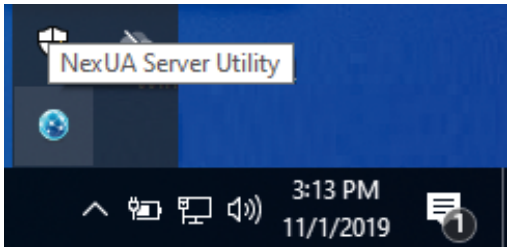
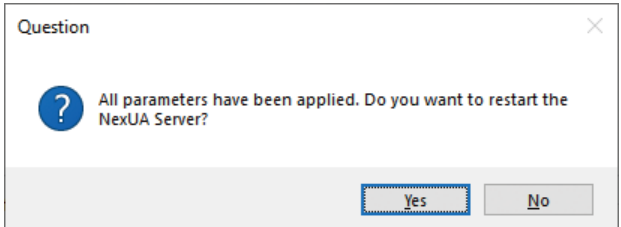
3. The GUI of NexUA Server will be displayed on the screen.



CHAPTER 2: NEXUA SERVER BASICS

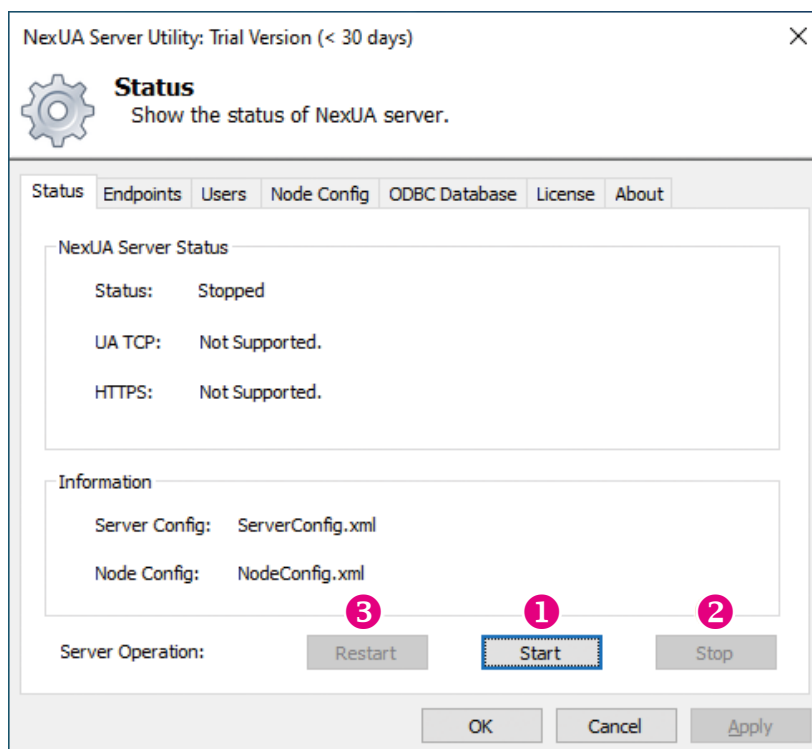
NexAloT NexUA Server consists 5 pages of information and menus for server status and configurable parameters. Simply click on the respective tab for further configuration purposes with NexUA Server.

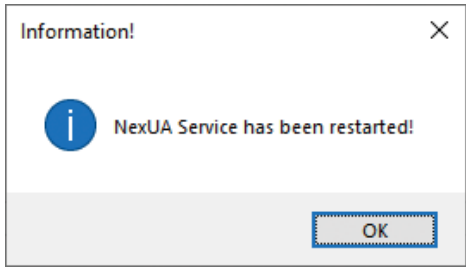


Item	Name	Description
1	NexUA Server Status	Move the cursor onto the connection address and right click to copy it.
2	OK/Cancel	<p>Click OK or Cancel to hide the interface in the background.</p>  <p>To bring the interface back to the screen, click on Show hidden icons in the taskbar, and click on the icon of NexUA Server. A message will prompt you to enter the password.</p> 
3	Apply	<p>Click Apply to make the configured parameters take effect. A message will prompt you with the option to restart the server.</p> 
4	X	Click on the X button to exit NexUA Server.

2.1 Status

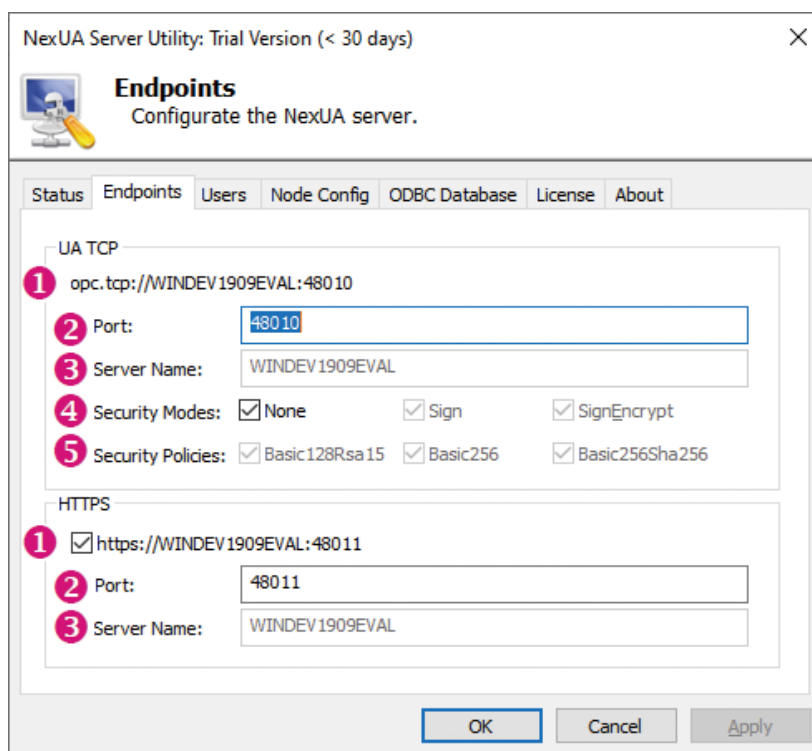
The Status page displays brief information about the current server status. When NexUA Server is launched, the server operation is initially stopped by default. Once NexUA Server is up and running, the connection addresses for **UA TCP:** and **HTTPS:** will be displayed respectively, allowing client applications to use the addresses to connect to NexUA Server.



Item	Name	Description
1	Start	Click Start to get the server running.
2	Stop	Click Stop to stop the server operation.
3	Restart	Click Restart to stop and start the server operation. <div data-bbox="743 1549 1205 1814" data-label="Image">  </div>

2.2 Endpoints

The Endpoints page allows you to configure all affiliated settings of connections between endpoints. You can edit the settings and save them by clicking **Apply** at the bottom of the user interface. The settings are applied once the server has been restarted.

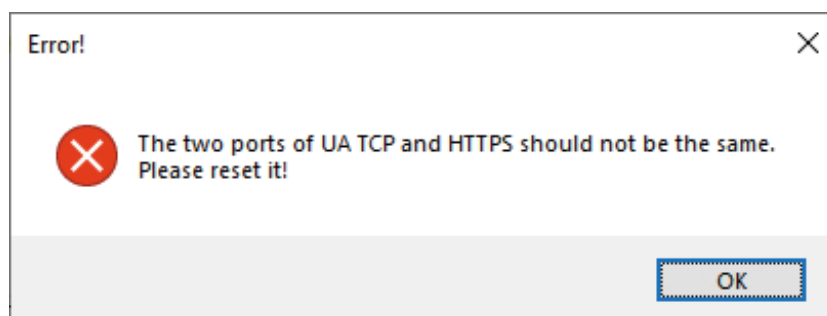


The screenshot shows the 'Endpoints' configuration window in the NexUA Server Utility. The window title is 'NexUA Server Utility: Trial Version (< 30 days)'. The main title is 'Endpoints' with the subtitle 'Configure the NexUA server.' Below the title bar are tabs: 'Status', 'Endpoints' (selected), 'Users', 'Node Config', 'ODBC Database', 'License', and 'About'. The 'Endpoints' tab contains two sections: 'UA TCP' and 'HTTPS'. The 'UA TCP' section has five numbered red circles indicating configuration steps: 1. 'opc.tcp://WINDEV1909EVAL:48010', 2. 'Port: 48010', 3. 'Server Name: WINDEV1909EVAL', 4. 'Security Modes: [X] None [X] Sign [X] SignEncrypt', and 5. 'Security Policies: [X] Basic128Rsa15 [X] Basic256 [X] Basic256Sha256'. The 'HTTPS' section has three numbered red circles: 1. '[X] https://WINDEV1909EVAL:48011', 2. 'Port: 48011', and 3. 'Server Name: WINDEV1909EVAL'. At the bottom are 'OK', 'Cancel', and 'Apply' buttons.

Item	Name	Description
1	Connection Address	UA TCP is the default network protocol for the endpoints. You can choose to enable or disable the HTTPS protocol by checking/unchecking the checkbox on the left of the HTTPS connection address.
2	Port	Enter a number in the Port field to set the dedicated port for the connection address.
3	Server Name	Enter a name in the Server Name field to set the hostname for the connection address.
4	Security Modes	Check either of the checkboxes in Security Modes to set the method for authenticating the connection. <ul style="list-style-type: none"> • None: The connection does not require authentication. • Sign: The connection requires sign-in information. • SignEncrypt: The connection requires and encrypts sign-in information.
5	Security Policies	Check either of the checkboxes in Security Policies to set the encryption algorithm used for the connection. <ul style="list-style-type: none"> • Basic128Rsa15: The connection adopts RSA15 as the key wrap algorithm and 128-bit Basic as the message encryption algorithm. • Basic256: The connection adopts 256-bit Basic as the message encryption algorithm. • Basic256Sha256: The connection uses SHA256 for the signature digest and 256-bit Basic as the message encryption algorithm.

**Note:**

1. HTTPS is designed to secure against attackers gaining access to website accounts and sensitive information. Thus, there are no security settings in the HTTPS section.
2. If both ports of UA TCP and HTTPS are identical, an error message will prompt you to reset the ports.



2.3 Users

The Users page displays user authentication settings. Connections to NexUA Server can be authenticated with username/password, Windows Logon, or Certification.

NexUA Server Utility: Trial Version (< 30 days)

Users
Add/Remove the users of NexUA server.

Status Endpoints **Users** Node Config ODBC Database License About

Administrator

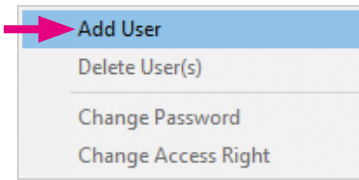
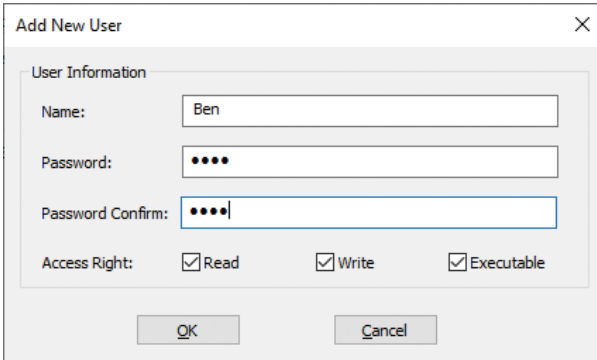
Name: root Password: 1 Reset

Server Users

#	Name	Read	Write	Executable
		2		

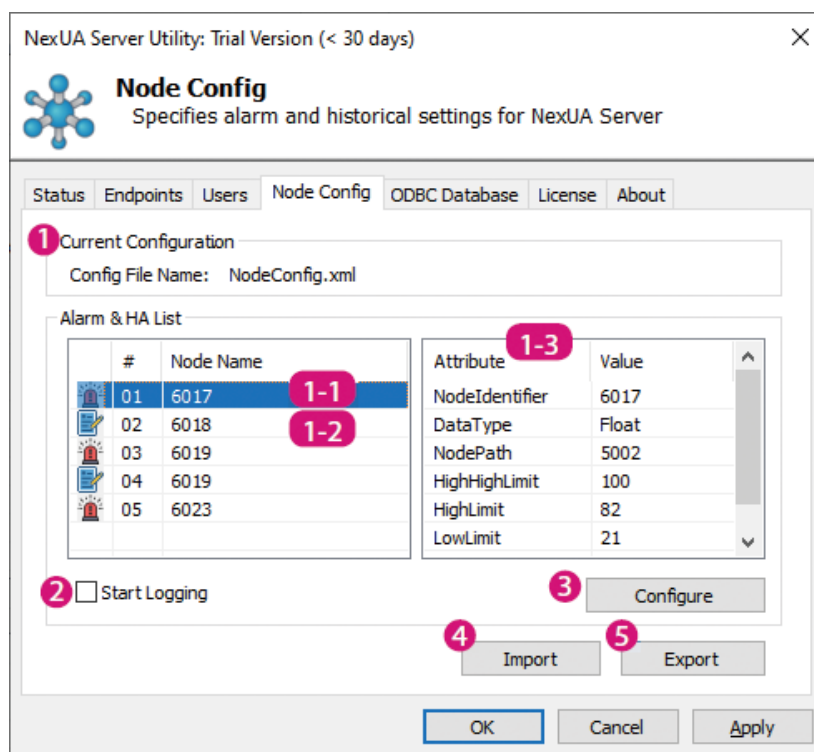
☒ 3 Enable Windows Logon ☒ 4 Enable Certification ☒ 5 Anonymous

OK Cancel Apply

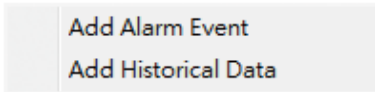




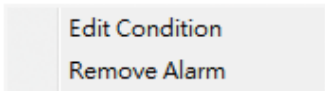
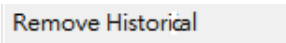
Item	Name	Description
1	Reset	Click Reset to change the password of the Administrator .
2	Server Users	<p>Right click on the table in Server Users to Add a user, Delete one or multiple users, Change Password of a user, and Change Access Right of a user.</p> <p>Note: Press and hold the Shift key and click on the name of the user to select multiple users.</p> 
	Add User	<p>Select Add User in the pop-up window to add a new account. Enter the required information in the respective fields, and select the required Access Right option by selecting the respective checkboxes. Click OK when done.</p> 
3	Enable Windows Logon	Check the checkbox on the left of Enable Windows Logon to enable or disable Windows logon, which is a feature that uses username and password of the local windows installation for NexUA Server connection.
4	Enable Certification	<p>Check the checkbox on the left of Enable Certification to enable or disable asymmetrical cryptography to authenticate with the self-signed certificate for NexUA Server connection.</p> <p>The trusted self-signed public key is stored in the following path: C:\Program Files\NEXCOM\NexUA Server\pkuser\trusted\certs</p> <p>The rejected self-signed public key is stored in the following path: C:\Program Files\NEXCOM\NexUA Server\pkuser\rejected</p> <p>Note: Moving a rejected self-signed public key from the “rejected” location to the “trusted” location results in its status becoming trusted.</p>
5	Anonymous	Check the checkbox on the left of Anonymous to enable or disable anonymous login.


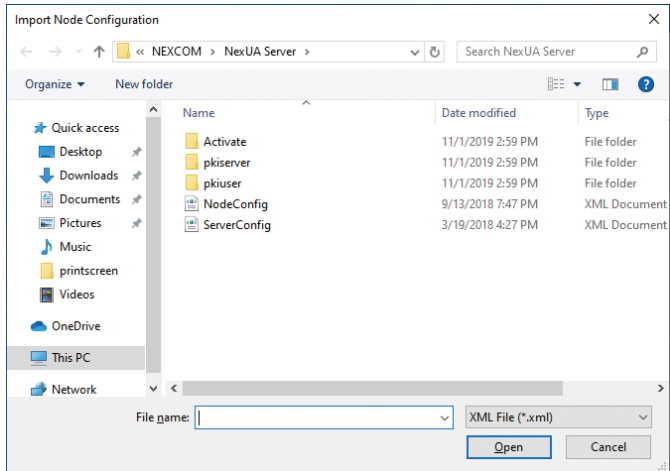
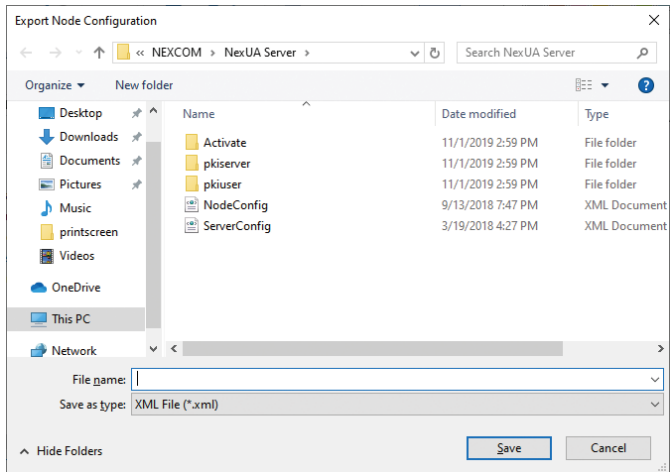
2.4 Node Config

The Node Config page displays and configures alarm and historical data settings of the NexUA Server. An alarm is an abnormal condition aimed to notify relevant users that special attention is required. The historical configuration is used to provide historical data for a variable from the NexUA Server.



Item	Name	Description
1	Alarm & HA List	<p>1-1. The icon represents an alarm field.</p> <p>1-2. The icon represents a field and the value of the field will be stored to the server.</p> <p>1-3. Displays the attributes of the selected fields in the Alarm & HA List table.</p>
2	Start Logging	Starts or stops the logging of historical data. After starting the logging, the value of nodes will be historized to the server.
3	Configure	<p>You can edit the alarm and historical data settings by clicking Configure at the bottom of the Node Config page.</p> <p>1. Objects: Allows users to browse all the objects ("object" indicates the node class) and all the child elements of objects in the server's address space. (The server's address space will be saved as a XML file and the default filename is NodeConfig.xml.)</p>

Item	Name	Description
		<p>Right-click on the element to select the Add Alarm Event or Add Historical Data menu item. Select Add Alarm Event to set the element with alarm notification, or select Add Historical Data to ask server for historical data buffering.</p> <div data-bbox="623 470 995 560">  </div> <p>1-1 The  icon represents a node without alarm and historical data setting.</p> <p>1-2 The  icon represents a node with alarm notification setting.</p> <p>1-3 The  icon represents that the server will save historical data for this node.</p> <p>1-4 The  icon represents this node provides both alarm notification and historical data buffering.</p> <p>2. Alarm Event: Allows users to browse all the nodes with alarm notification setting.</p> <p>Right-click on the element to select the Edit Condition or Remove Alarm menu item.</p> <div data-bbox="623 1249 946 1339">  </div> <p>3. Historical Data: Allows users to browse all the nodes with historical data buffering setting.</p> <p>Right-click on the element and select the Remove Historical menu item to remove setting.</p> <div data-bbox="623 1631 907 1673">  </div> <p>4. Attribute List: The Attribute window shows the attributes of the node that is selected in the Objects window.</p>

Item	Name	Description
		<p>5. Alarm Condition: The Alarm Condition window shows the conditions of alarm notification. If the node's data type is Boolean, there is no need to set the alarm condition.</p>  <p>Note: The settings of Historical Data and Alarm Event might be disabled if the node's data type is not supported by ODBC.</p>
4	Import	<p>Click Import to select configuration files in the File Explorer. Select the file and click Open. A message will prompt you to restart the NexUA Server.</p> <p>After restarting the NexUA Server, the new configuration will be applied to the server's address space.</p> 
5	Export	<p>Click Export to save the current configuration to an external XML file.</p> 

2.5 NexUA ODBC SOP

This section describes the procedures for setting up ODBC in MySQL and MSSQL.

MySQL

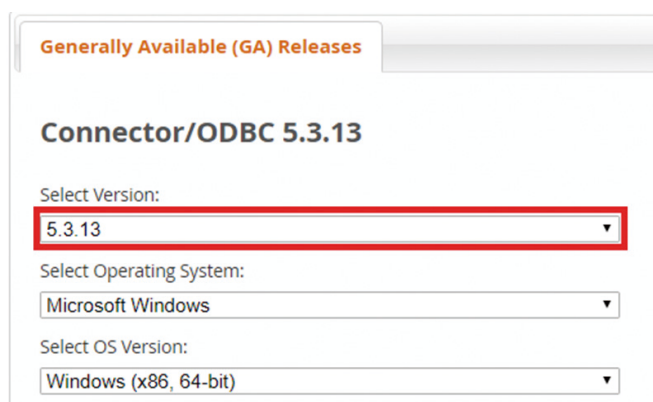
Step 1: Environment Setup

1-1 Please download MySQL and ODBC drivers from the below URLs:

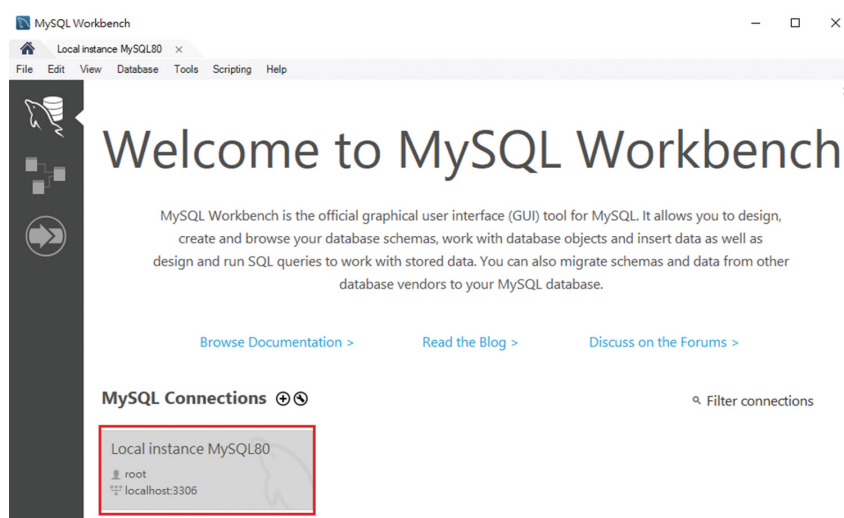
<https://dev.mysql.com/downloads/mysql/>

<https://dev.mysql.com/downloads/connector/odbc/>

Note: The ODBC driver cannot be higher than the fifth version.

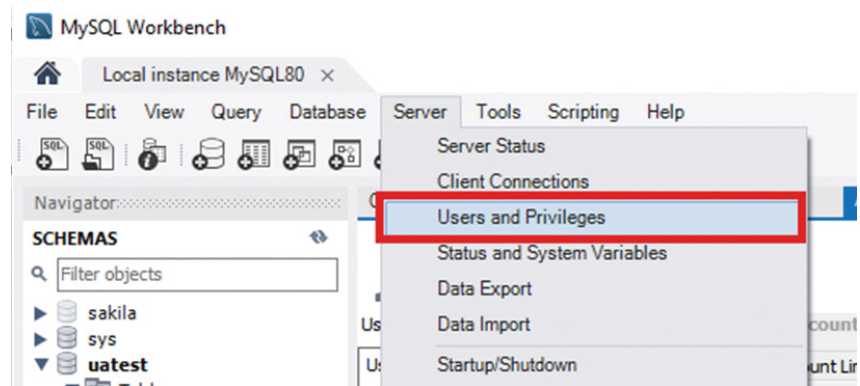


1-2 Open **MySQL Workbench** and connect to the target server.

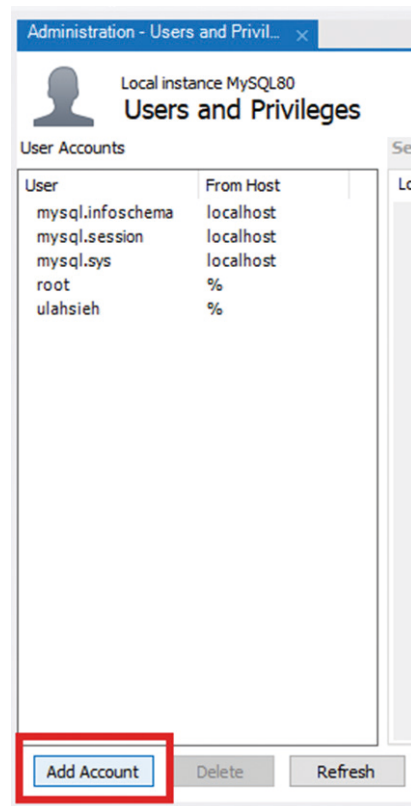


Step 2: Create the user and give the user permission to access the DB

2-1 Go to **Server > Users and Privileges** on the top menu bar.



2-2 Click **Add Account**.



2-3 Fill in the **Login Name** and **Password**.

Details for account newuser@%

Login Account Limits Administrative Roles Schema Privileges

Login Name: You may create multiple accounts with the same name to connect from different hosts.

Authentication Type: For the standard password and/or host based authentication, select 'Standard'.

Limit to Hosts Matching: % and _ wildcards may be used

Password: Type a password to reset it.

Medium strength password.

Confirm Password: Enter password again to confirm.

2-4 To allow access to the database from any network, please enter the percentage sign " %" in **Limit to Hosts Matching**. This will grant MySQL remote access to any IP or network.

Administration - Users and Privileges

Local instance MySQL80

Users and Privileges

User Accounts

User	From Host
mysql.infoschema	localhost
mysql.session	localhost
mysql.sys	localhost
root	%
ulahsieh	%

Details for account ulahsieh@%

Login Account Limits Administrative Roles Schema Privileges

Login Name: You may create multiple accounts with to connect from different hosts.

Authentication Type: For the standard password and/or host select 'Standard'.

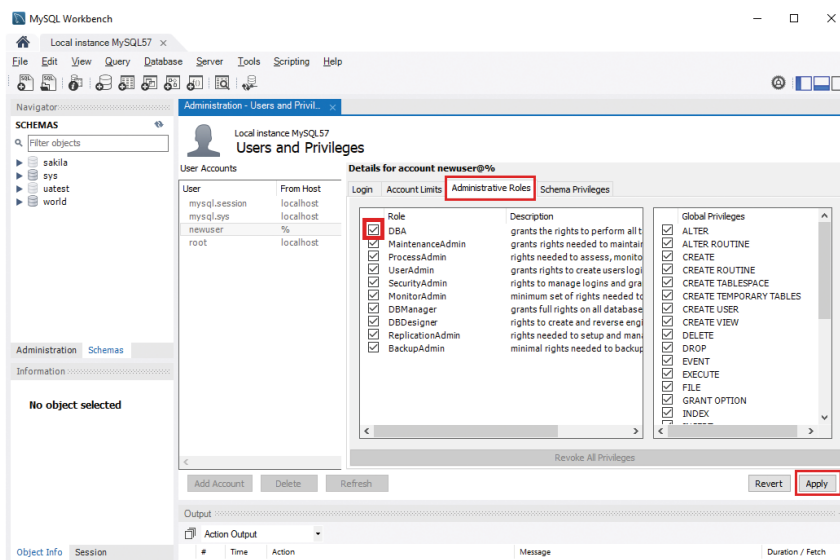
Limit to Hosts Matching: % and _ wildcards may be used

Password: Type a password to reset it.

Consider using a password with 8 or more characters with mixed case letters, numbers and punctuation marks.

Confirm Password: Enter password again to confirm.

2-5 Change the tab to **Administrative Roles** and select the first role **DBA**, then click **Apply**.

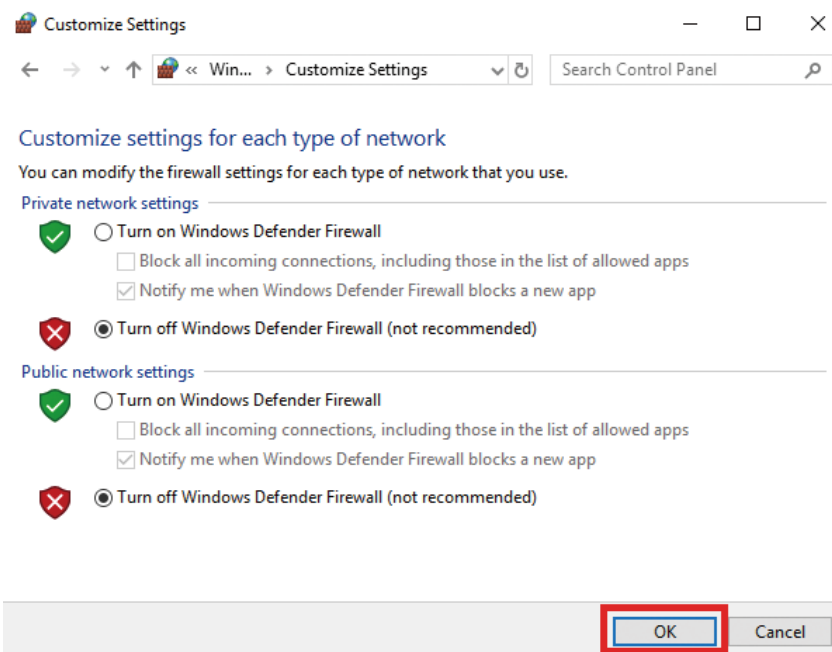


Step 3: Turn off the firewall setting in Control Panel

- 3-1 Go to **Control Panel > System and Security > Windows Defender Firewall**, and click **Turn Windows Defender Firewall on or off**.

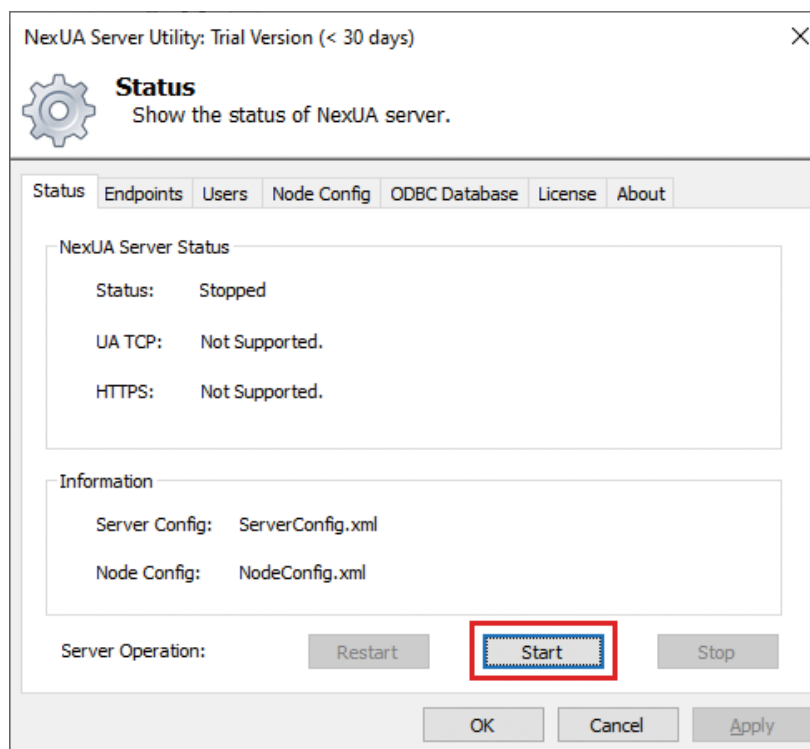


- 3-2 Select **Turn off Windows Defender Firewall** and click **OK**.

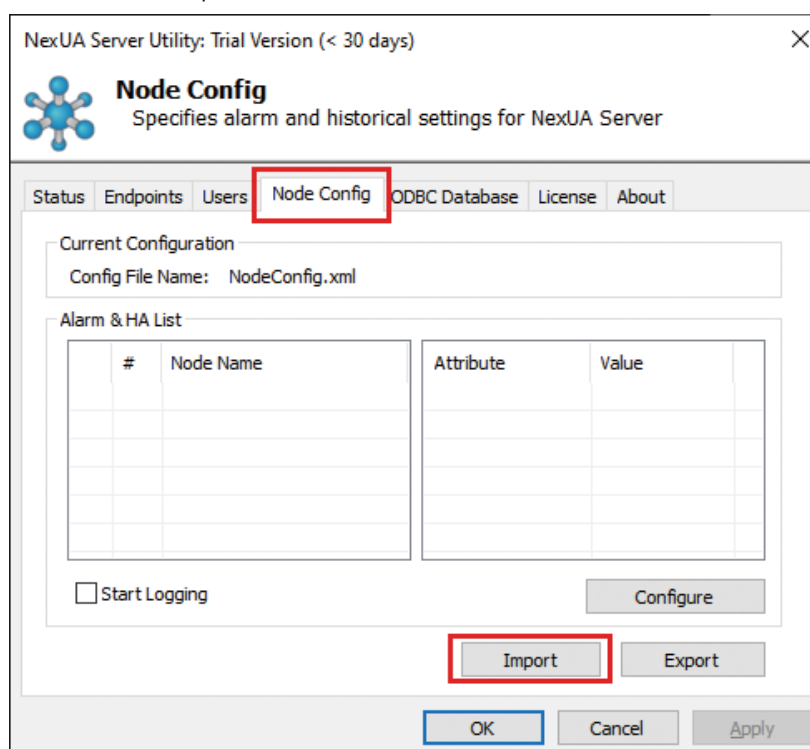


Step 4: NexUA Server Utility Settings - Node Config

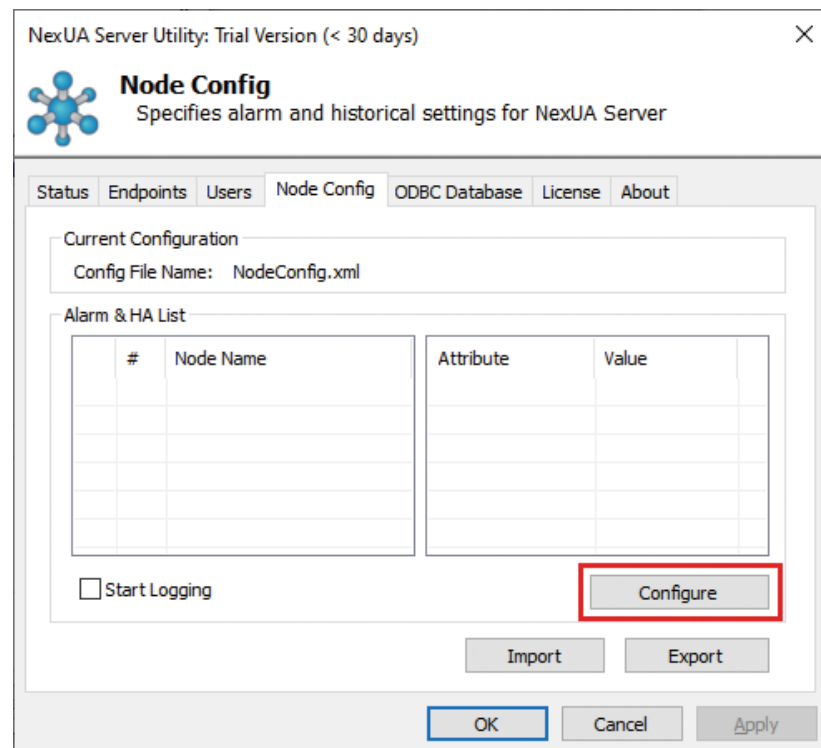
4-1 Open the NexUA Server Utility and click **Start** to run the server.



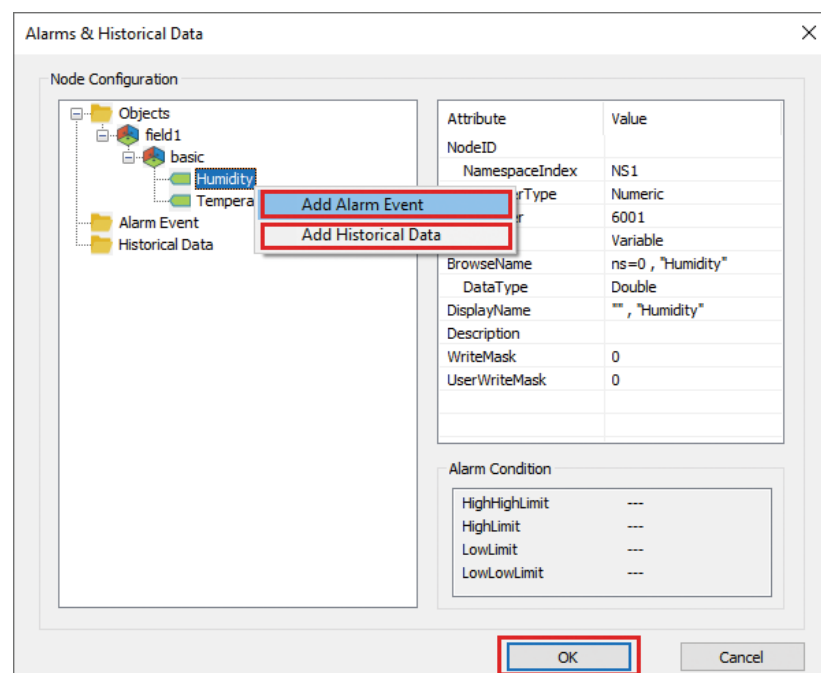
4-2 Switch to the **Node Config** tab and click **Import** to add your XML address space file.



4-3 Click **Configure** to show the **Alarm & Historical Data** window.




4-4 Expand the node tree. Right-click the node and choose the **Alarm Event** or **Historical Data** you would like to add, then click **OK**.



- 4-5 You can view the **Alarm & HA List's** changes below. Check the **Start Logging** checkbox to log the data into database. Click **Apply** to apply the settings to the server.




NexUA Server Utility: Trial Version (< 30 days)

 **Node Config**
Specifies alarm and historical settings for NexUA Server

Status Endpoints Users **Node Config** ODBC Database License About

Current Configuration
Config File Name: NodeConfig.xml

Alarm & HA List

	#	Node Name	Attribute	Value
	01	6001		
	02	6001		
	03	6002		

☒ Start Logging

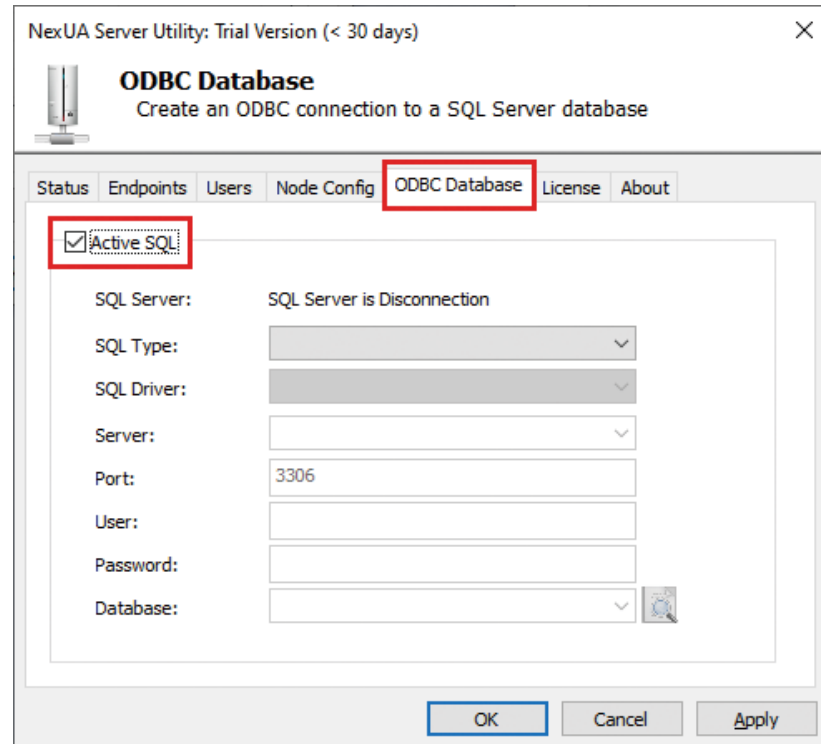
Configure

Import Export

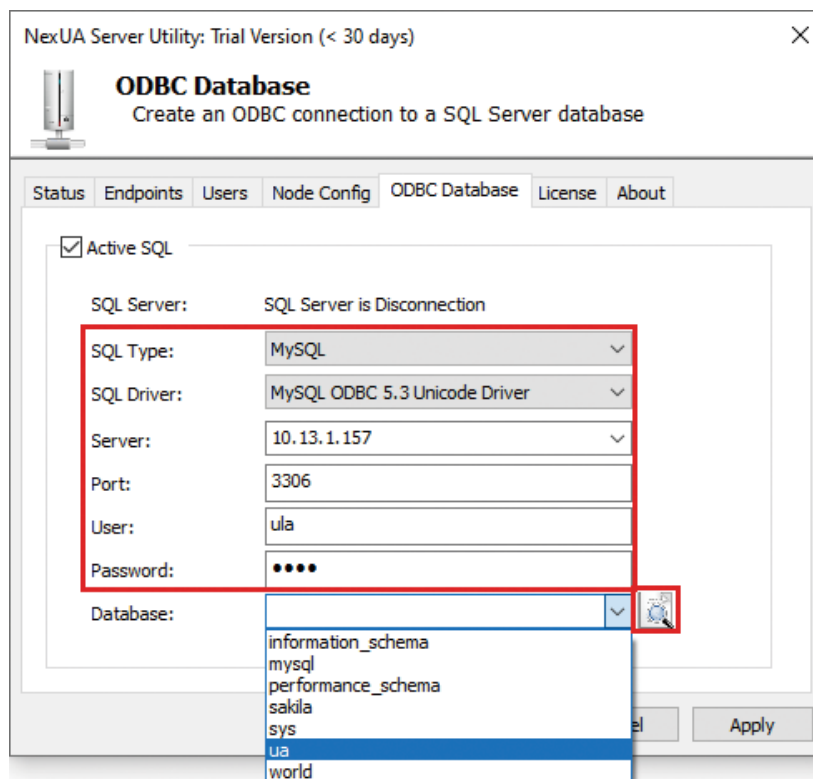
OK Cancel **Apply**

Step 5: NexUA Utility Settings - ODBC Database

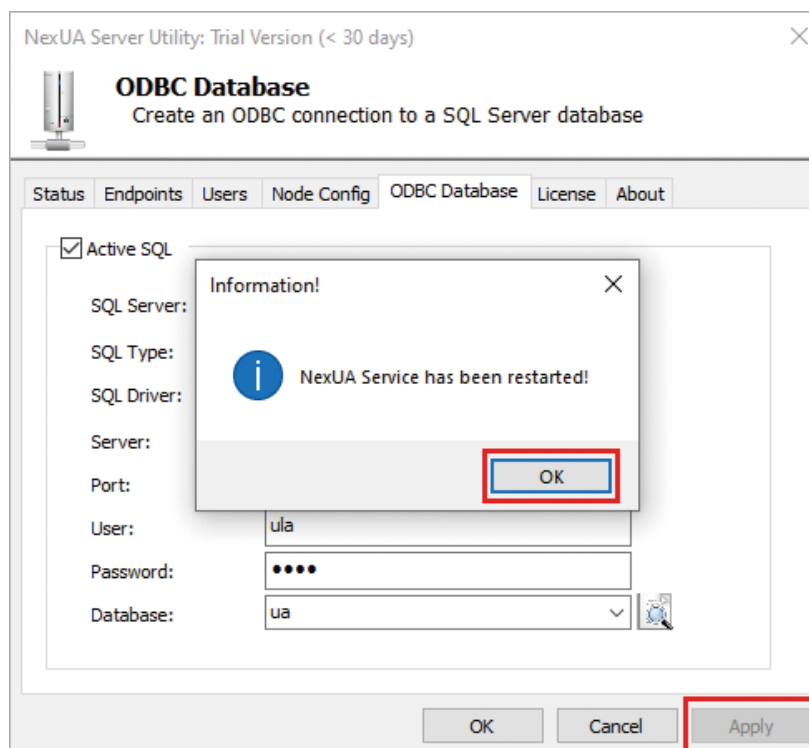
- 5-1 Switch to the **ODBC Database** tab and check the **Activate SQL** checkbox.



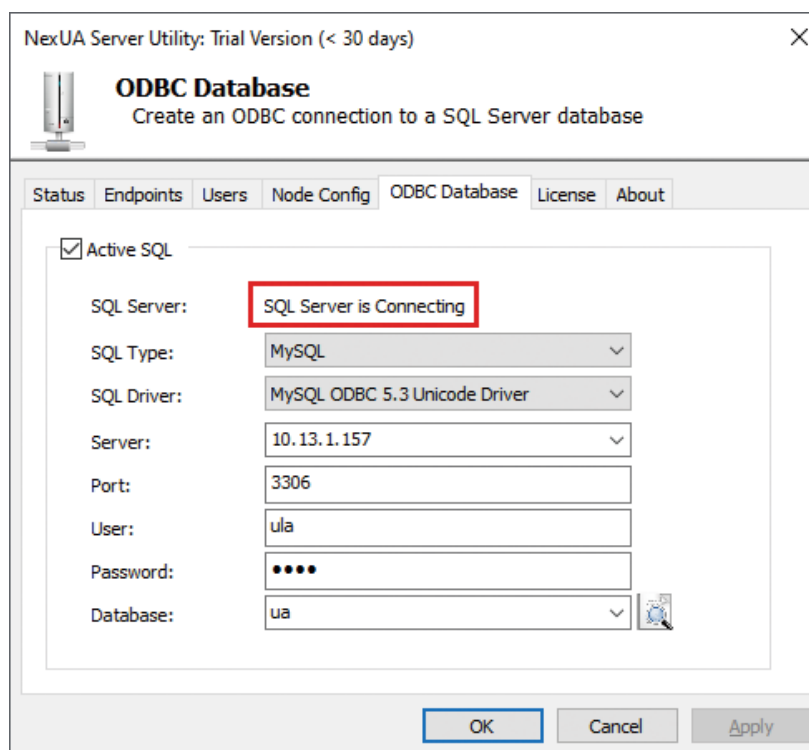
- 5-2 Choose **MySQL** and the suitable **ODBC SQL Driver** in the first two drop-down lists. Fill in the IP address of your **SQL Server**, the default port number "**3306**" and the **user login information**. Click the **magnifier icon** to search the databases from the designated SQL server and choose your target database.



5-3 Click **Apply** and restart the Utility.

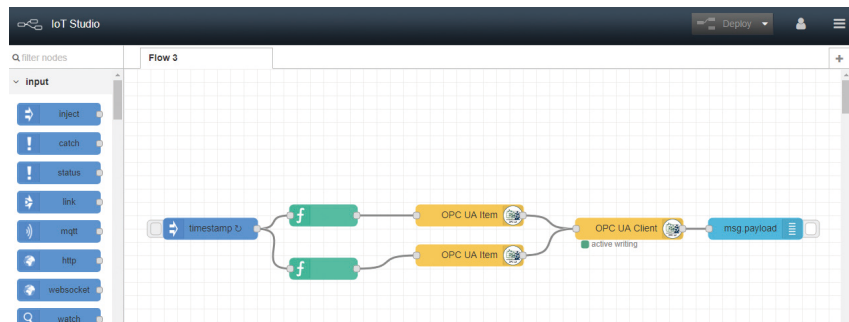


The Utility will display that the connection is connecting.



Step 6: Start logging the data

6-1 Prepare the dataflow on IoT Studio.



6-2 Look up the database. Two new tables has been created, with the data successfully recorded to the tables as well.

historizedevent historizedvariable

Limit to 1000 rows

```
1 • SELECT * FROM uatest.historizedvariable;
```

	id	nodeid	value	ts
	109	6002	57	2019-08-06 23:05:14.738
	110	6001	90	2019-08-06 23:05:24.741
	111	6002	95	2019-08-06 23:05:24.744
	112	6001	28	2019-08-06 23:05:34.738
	113	6002	64	2019-08-06 23:05:34.741
	114	6001	12	2019-08-06 23:05:44.741
	115	6002	86	2019-08-06 23:05:44.743
	116	6001	24	2019-08-06 23:05:54.739
	117	6002	15	2019-08-06 23:05:54.742
	118	6001	41	2019-08-06 23:06:04.741
	119	6002	57	2019-08-06 23:06:04.743
	120	6001	43	2019-08-06 23:06:14.743

historizedevent x historizedvariable

Limit to 1000 rows

1 • SELECT * FROM uatest.historizedevent;

Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content:

	id	eventid	eventtype	message	receivetime	severity	source
▶	1	0x614594B1...	10060	Non exclusive level alarm active in Low	2019-08-07T05:56:54...	400	1
	2	0x50F0A88E...	10060	Non exclusive level alarm inactive	2019-08-07T05:57:14...	100	1
	3	0x53AF38D...	10060	Non exclusive level alarm active in Low	2019-08-07T05:57:24...	400	1
	4	0xD0F69CD...	10060	Non exclusive level alarm active in HighHigh	2019-08-07T05:57:34...	800	1
	5	0xC3CB181...	10060	Non exclusive level alarm active in LowLow	2019-08-07T05:57:44...	800	1
	6	0xFD699A8...	10060	Non exclusive level alarm inactive	2019-08-07T05:57:54...	100	1
	7	0x4F2718F1...	10060	Non exclusive level alarm active in High	2019-08-07T05:58:04...	400	1
	8	0x0CB2B7F1...	10060	Non exclusive level alarm inactive	2019-08-07T05:58:14...	100	1
	9	0x6E4B4D07...	10060	Non exclusive level alarm active in Low	2019-08-07T05:59:14...	400	1
	10	0xAC83F33...	10060	Non exclusive level alarm active in High	2019-08-07T05:59:24...	400	1
	11	0x54890639...	10060	Non exclusive level alarm inactive	2019-08-07T05:59:34...	100	1

MSSQL

Step 1: Environment Settings

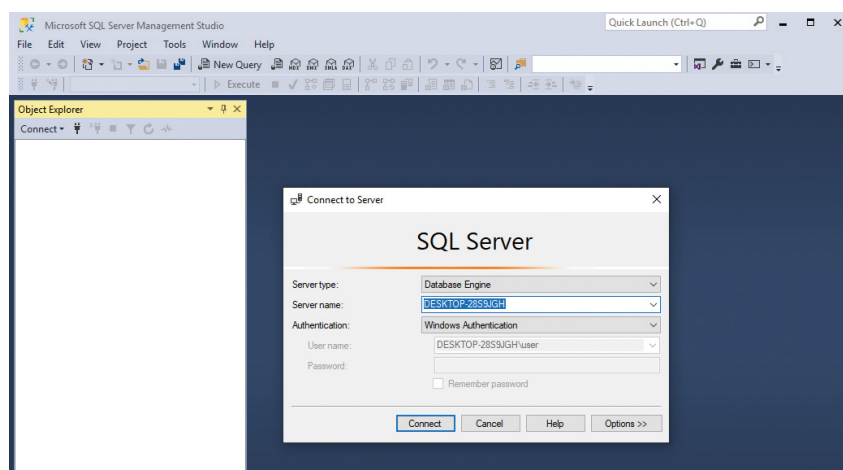
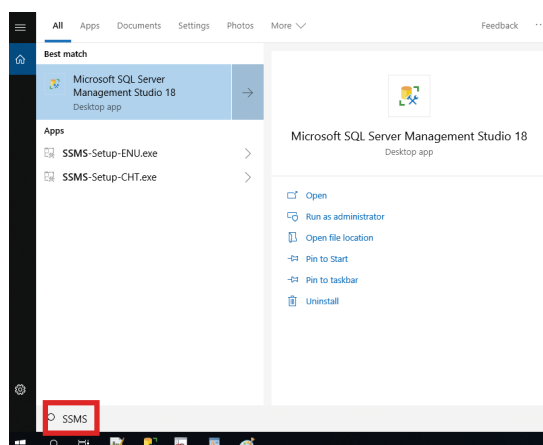
- 1-1 Please download SQL Server, SQL Server Management Studio and ODBC drivers from below URLs:

<https://www.microsoft.com/zh-tw/sql-server/sql-server-downloads#>

<https://docs.microsoft.com/zh-tw/sql/ssms/download-sql-server-management-studio-ssms?view=sql-server-2017>

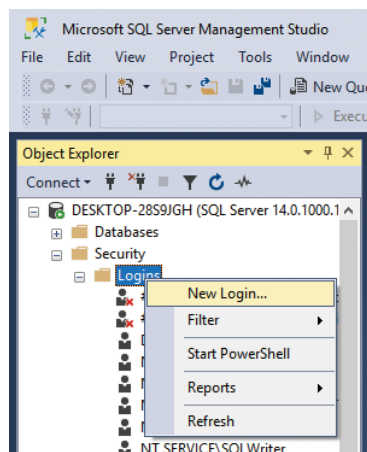
<https://www.microsoft.com/zh-tw/download/details.aspx?id=56567>

- 1-2 Open SQL Server Management Studio (directly enter "**SSMS**" in the Windows search box to locate it) and connect to the target SQL Server.

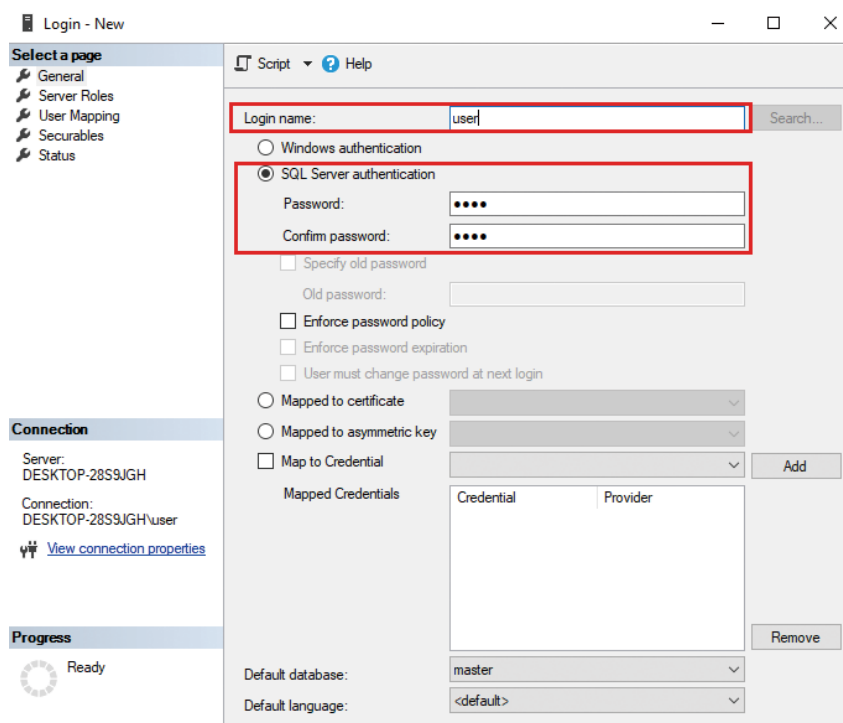


Step 2: Create the user and give the user access permission

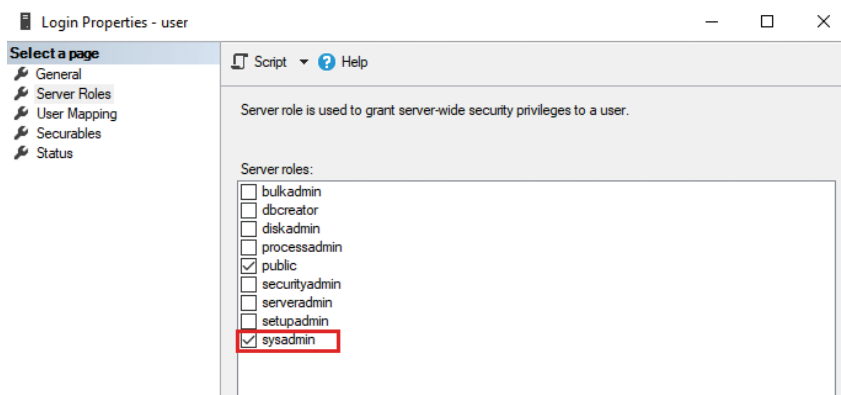
- 2-1 At the **Object Explorer** section, expand **Security** and right-click the **Logins** folder, then click **New Login...**



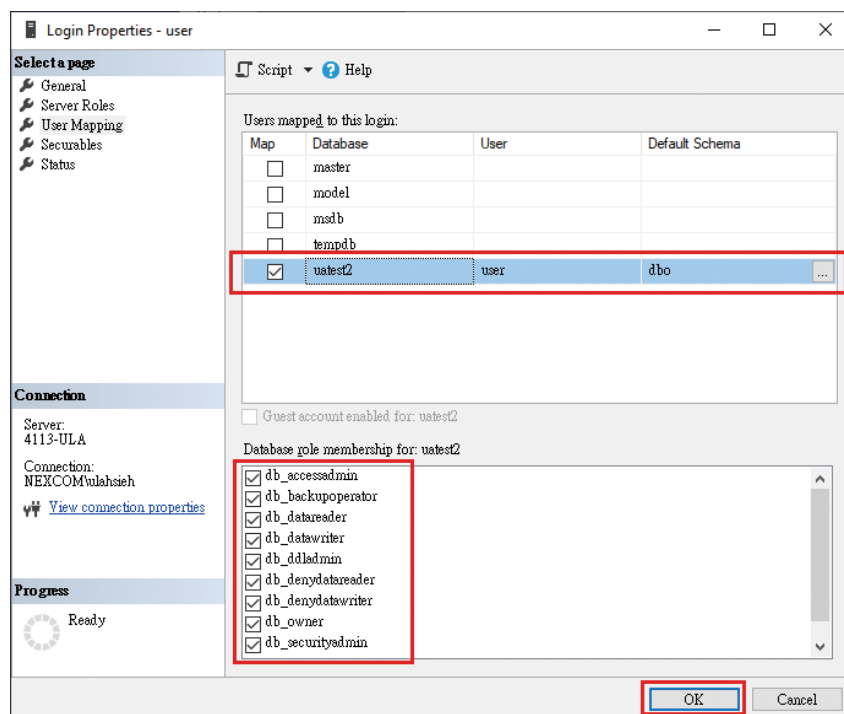
- 2-2 Fill in the **Login Name**, select the **SQL Server authentication** checkbox and enter the **Password** twice for confirmation.



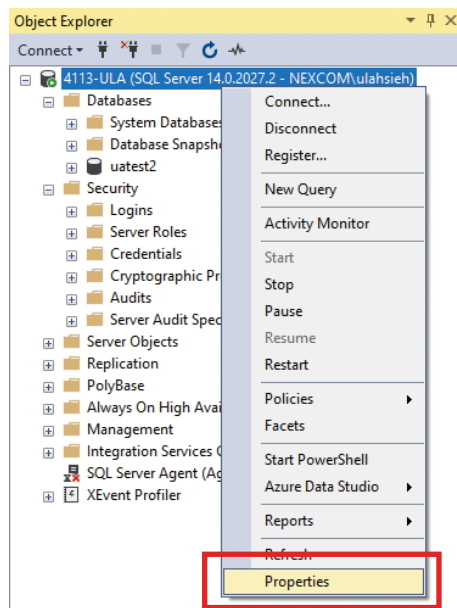
2-3 Switch to the **Server Roles** page and check the **sysadmin** role checkbox.



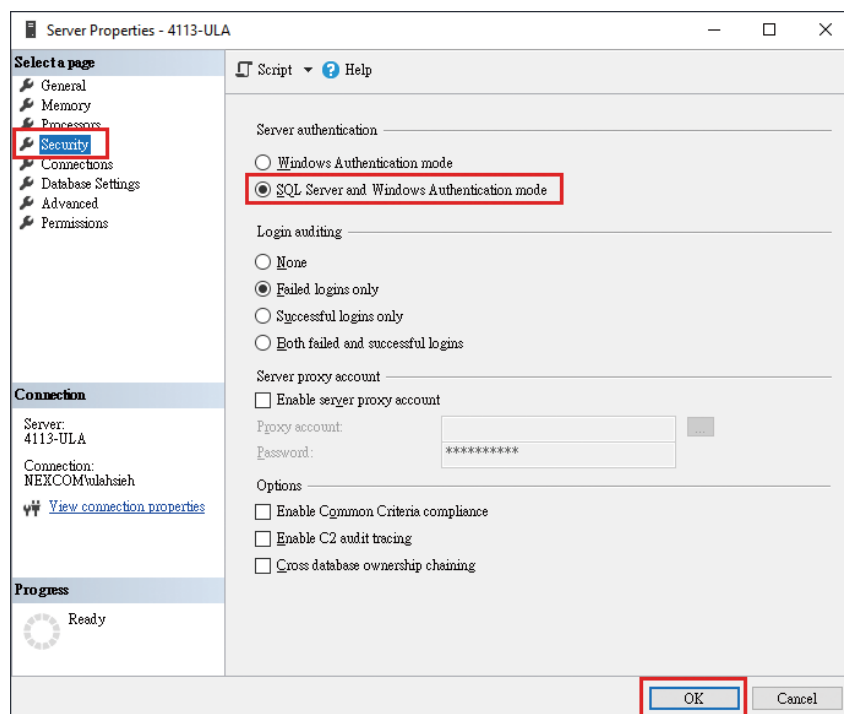
2-4 Switch to the **User Mapping** page. Select the target database and enable all the roles for the user, then click **OK**.



2-5 Right-click the **SQL server** in the **Object Explorer** window, and click **Properties**.

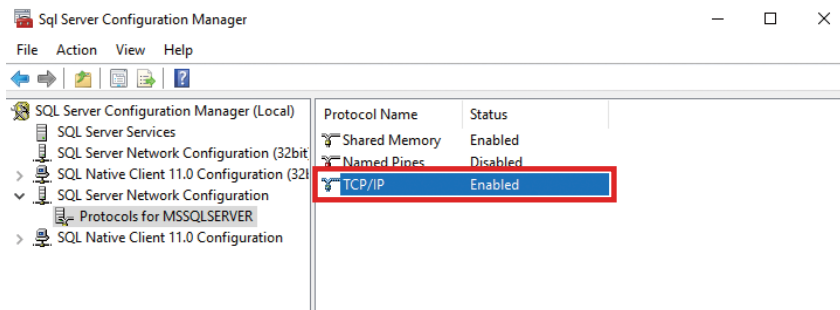


Go to the **Security** tab, and choose **SQL Server and Windows Authentication mode** in the first section. Then click **OK** to finish the setting.

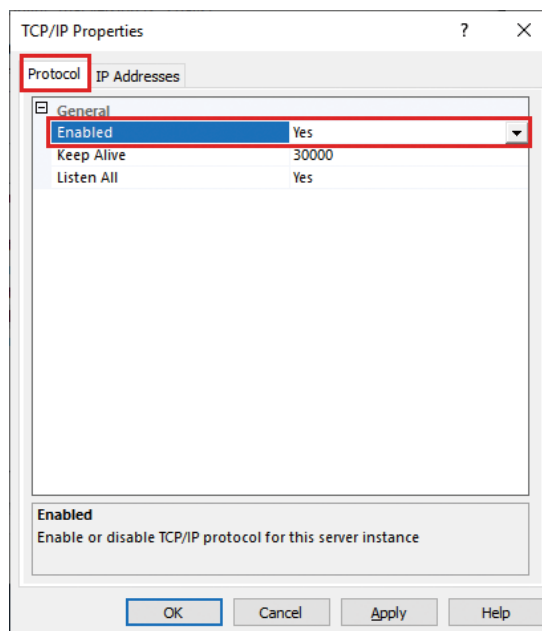


Step 3: Set the TCP port for the SQL Server

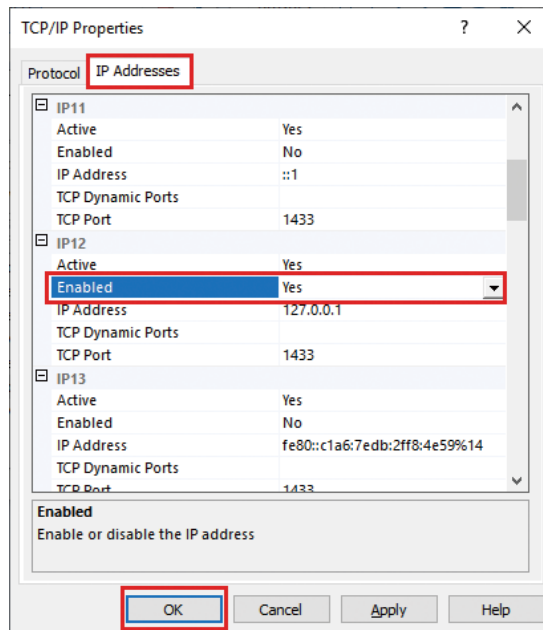
- 3-1 Open **SQL Server Configuration Manager**. Navigate to **SQL Server Network Configuration > Protocols for MSSQLSERVER**, and double click **TCP/IP**.



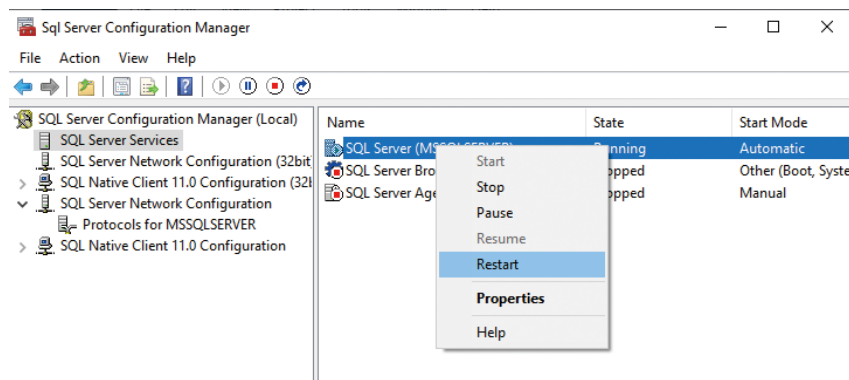
Change the **Enabled** option to **Yes**.



- 3-2 Switch to the **IP Address** tab. Find the IP address you'd like to connect and choose **Yes** in the **Enabled** field to enable it. Click **OK** after complete.

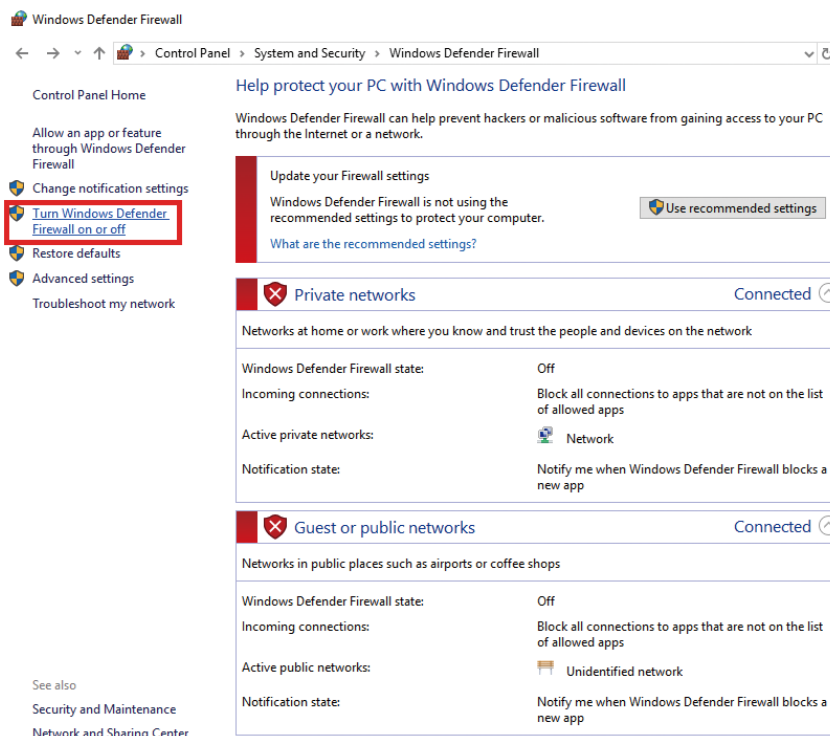


- 3-3 Go back to the main page of Configuration Manager and navigate to **SQL Server Services**. Right-click on **SQL Server (MSSQLSERVER)** and select **Restart** to apply all the changes to the server.

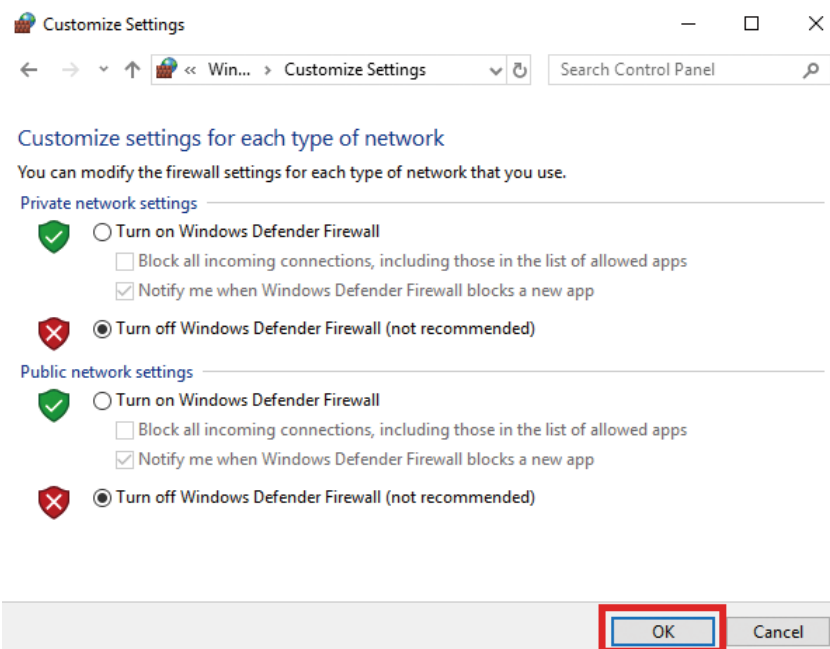


Step 4: Turn off the firewall setting in Control Panel

- 4-1 Go to **Control Panel > System and Security > Windows Defender Firewall**, and click **Turn Windows Defender Firewall on or off**.

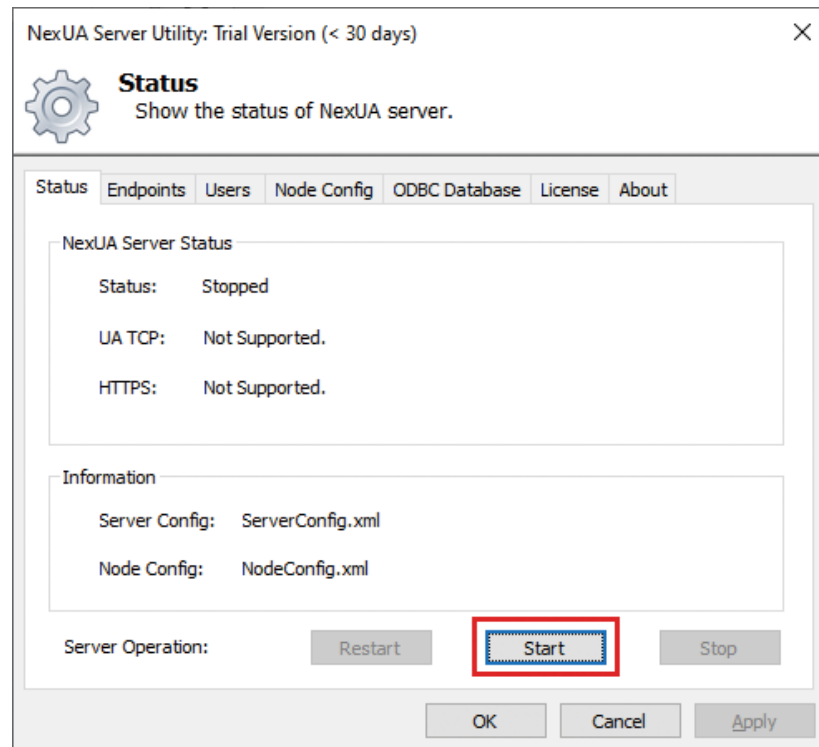


- 4-2 Select **Turn off Windows Defender Firewall** and click **OK**.

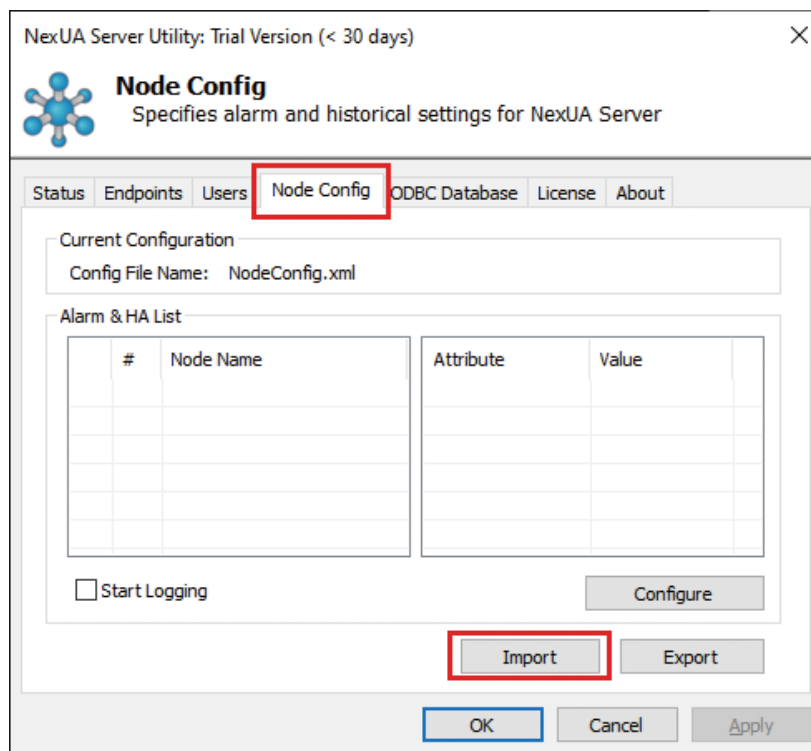


Step 5: NexUA Server Utility Settings - Node Config

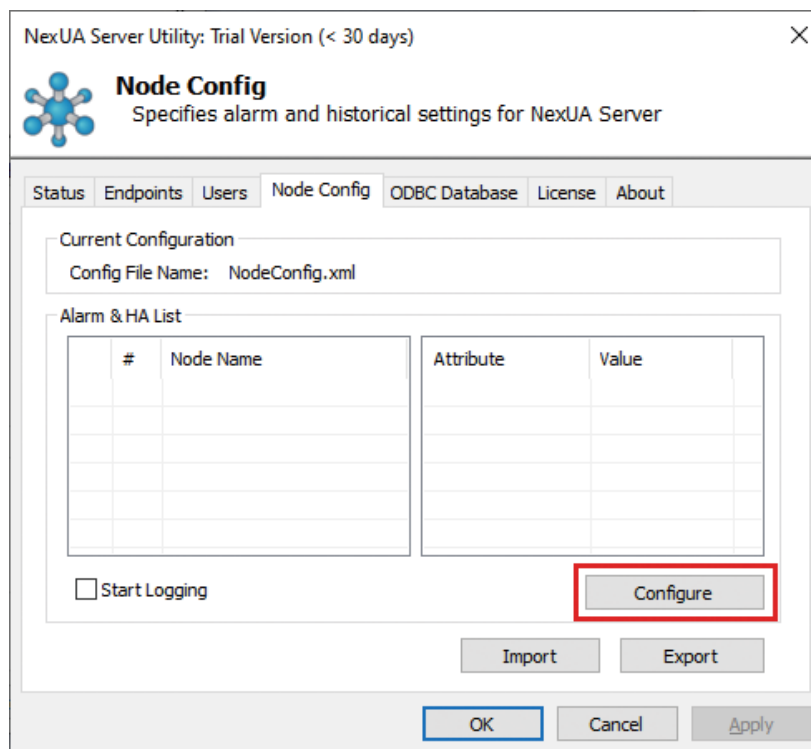
5-1 Open the NexUA Server Utility and click **Start** to run the server.



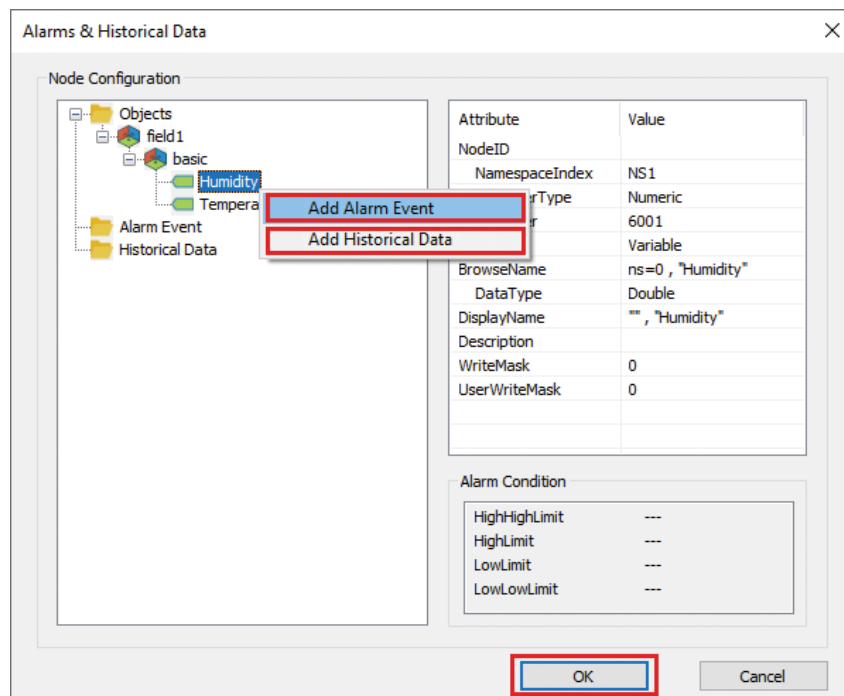
5-2 Switch to the **Node Config** tab and click **Import** to add your XML address space file.



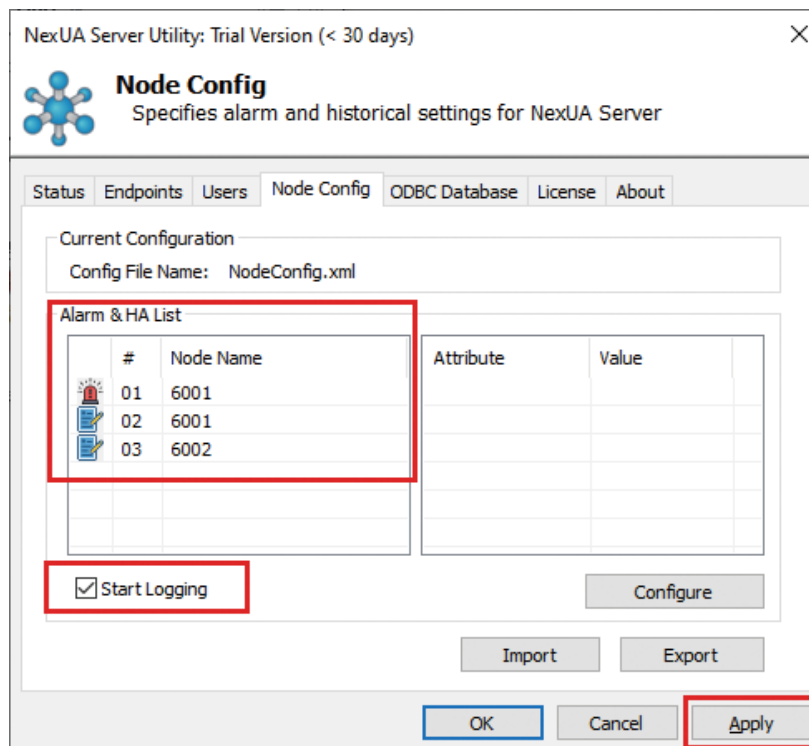
5-3 Click **Configure** to show the **Alarm & Historical Data** window.



5-4 Expand the node tree. Right-click the node and choose the **Alarm Event** or **Historical Data** you would like to add, then click **OK**.

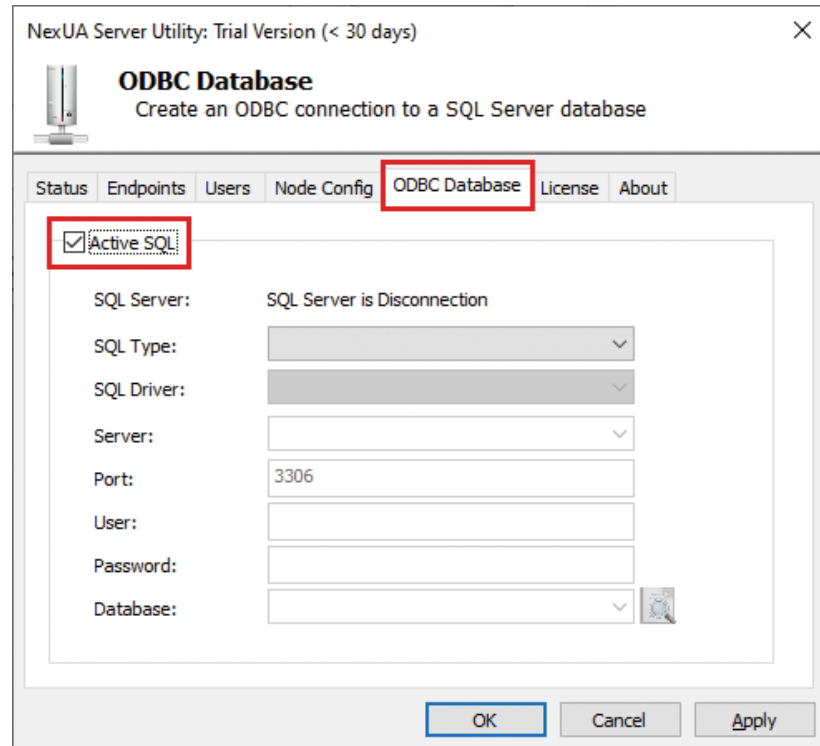


- 5-5 You can view the **Alarm & HA List's** changes below. Check the **Start Logging** checkbox to log the data into database. Click **Apply** to apply the settings to the server.

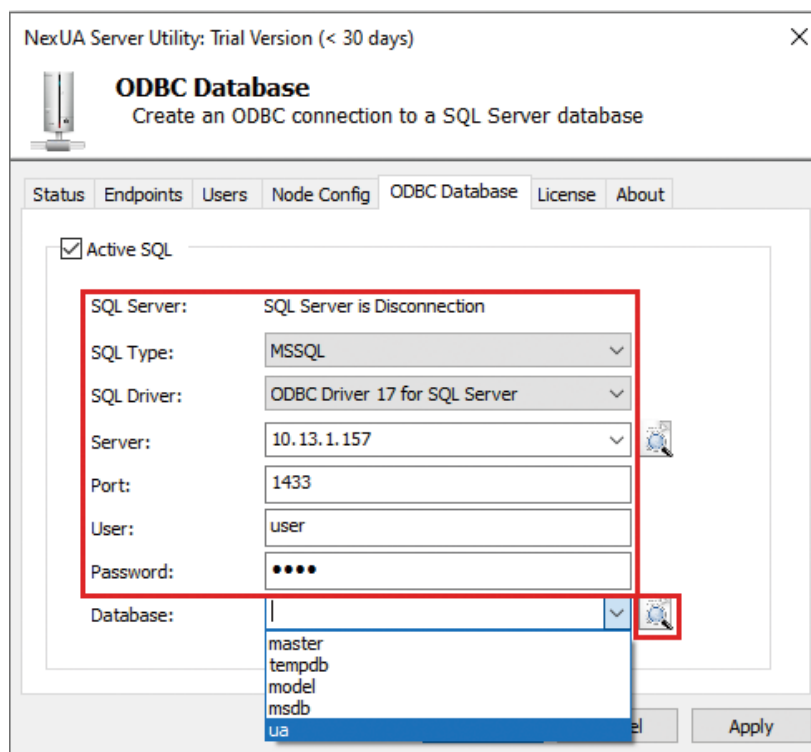


Step 6: NexUA Utility Settings - ODBC Database

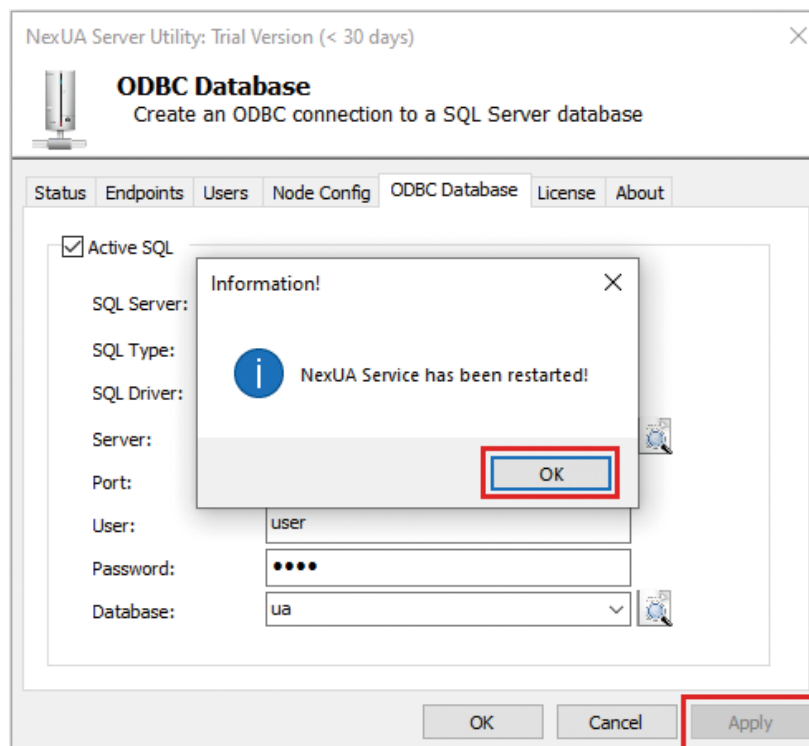
- 6-1 Switch to the **ODBC Database** tab and check the **Activate SQL** checkbox.



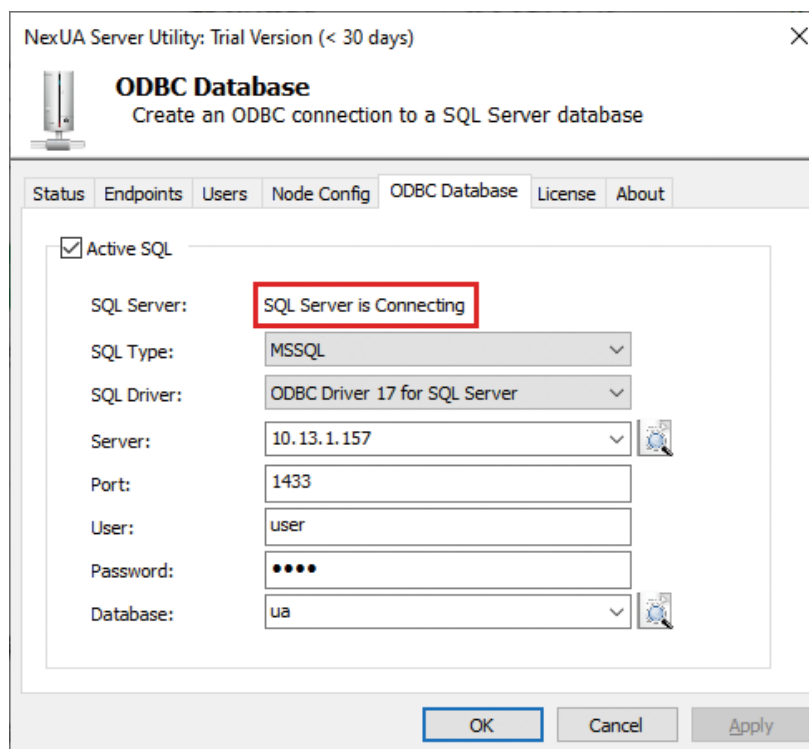
- 6-2 Choose **MSSQL** and the suitable **ODBC SQL Driver** in the first two drop-down lists. Fill in the IP address of your **SQL Server**, the default port number "**1433**" and the **user login information**. Click the **magnifier icon** to search the databases from the designated SQL server and choose your target database.



6-3 Click **Apply** and restart the Utility.

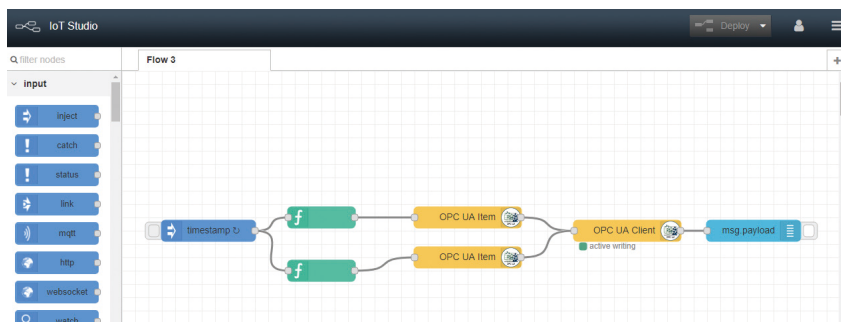


The Utility will display that the connection is connecting.

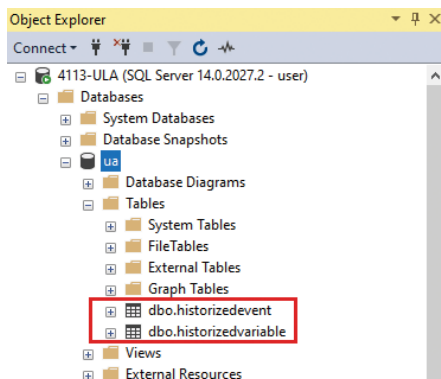


Step 7: Start logging the data

7-1 Prepare the dataflow on IoT Studio.



7-2 Look up the database. Two new tables has been created, with the data successfully recorded to the tables as well.

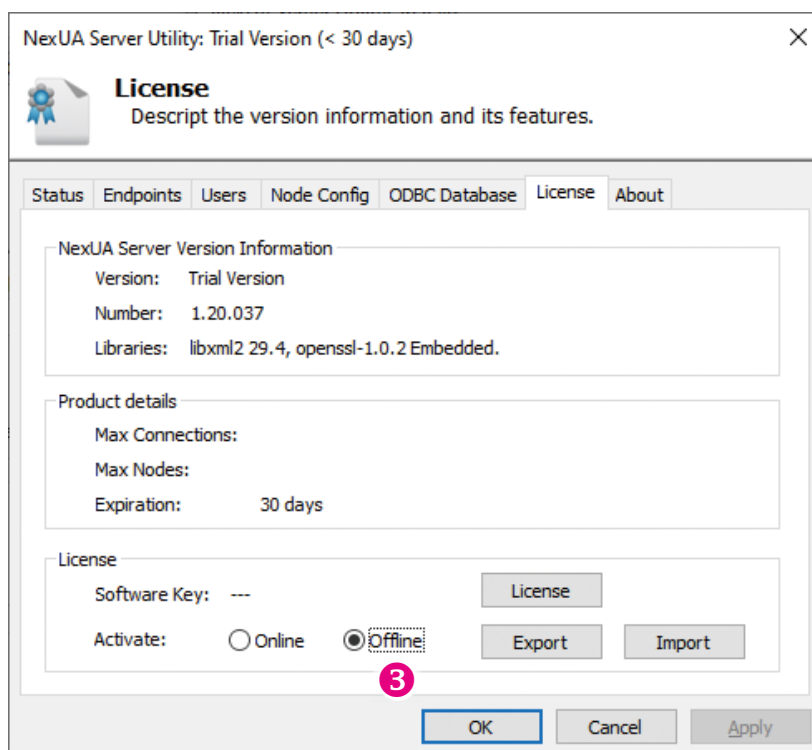
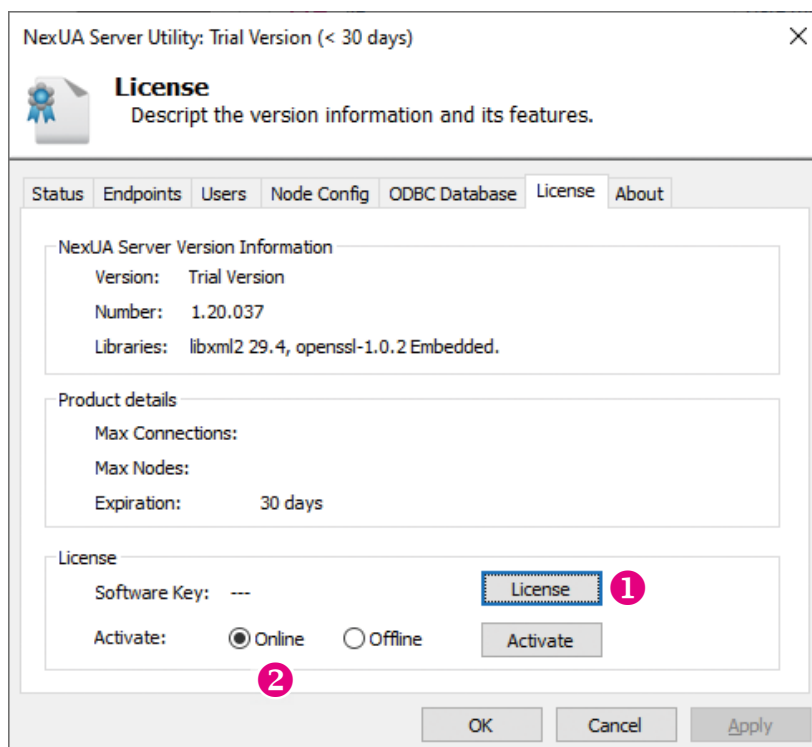


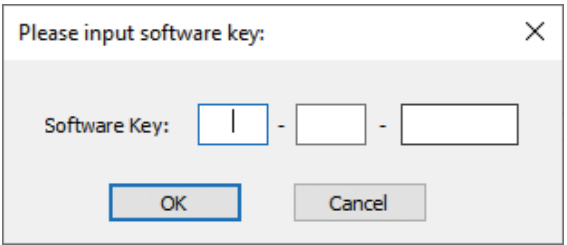
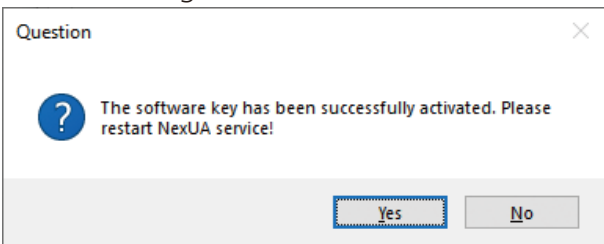
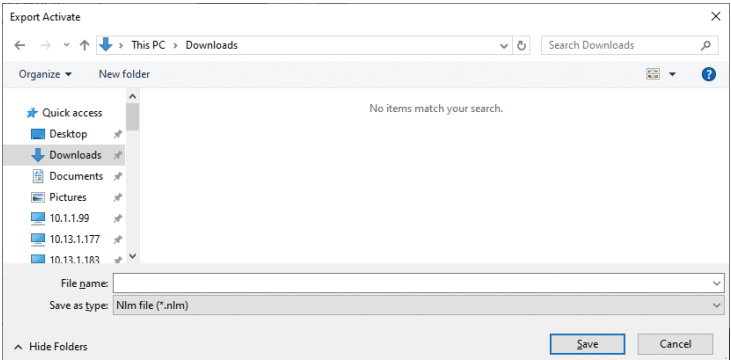
Results		Messages				
	id	eventid	eventtype	message	receivetime	
1	1	0x8621C6488DB26D40AC3C6A0728D992D9	10060	Non exclusive level alarm active in HighHigh	2019-08-28T03:43:11.419Z	
2	2	0x23E4669F139C80419F717E2A6B6B5046	10060	Non exclusive level alarm active in High	2019-08-28T06:07:02.497Z	
3	3	0x381F25F1F7D451438DE28CB6374EB12E	10060	Non exclusive level alarm active in Low	2019-08-28T06:07:08.082Z	
4	4	0xE29410A46DA2CE4AB8128B976397EB24	10060	Non exclusive level alarm active in LowLow	2019-08-28T06:07:12.330Z	
5	5	0xE5456CFCEE295147A4DEEC16438F15BD	10060	Non exclusive level alarm inactive	2019-08-28T06:07:18.027Z	
6	6	0x6C72F65B3B1C8C41B778A10DC6EED987	10060	Non exclusive level alarm active in High	2019-08-28T08:09:53.235Z	
7	7	0x6B5D15CD4FA2D94BA45D750B51D81AEF	10060	Non exclusive level alarm active in Low	2019-08-28T08:09:58.009Z	
8	8	0x0308F4ECA2CBC45B8C06212C305F274	10060	Non exclusive level alarm inactive	2019-08-28T08:10:04.113Z	
9	9	0x1441A6A94CC5A94BAF43D93D5A6B4234	10060	Non exclusive level alarm active in LowLow	2019-08-28T08:10:14.265Z	
10	1...	0xD86E500ABCFA24B85E14047B5D8FE59	10060	Non exclusive level alarm active in HighHigh	2019-08-28T08:10:21.921Z	
11	1...	0x528D9FCF24880341A34E7B016332A1B6	10060	Non exclusive level alarm inactive	2019-08-28T08:10:28.146Z	

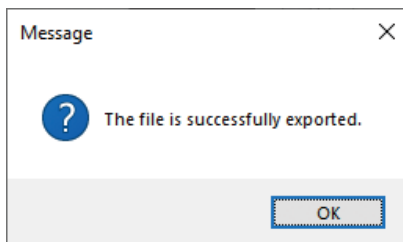
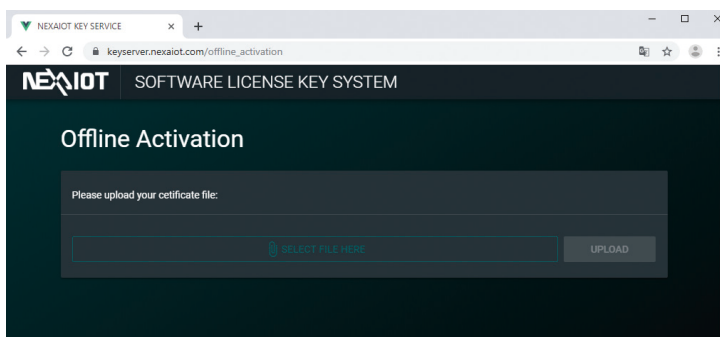
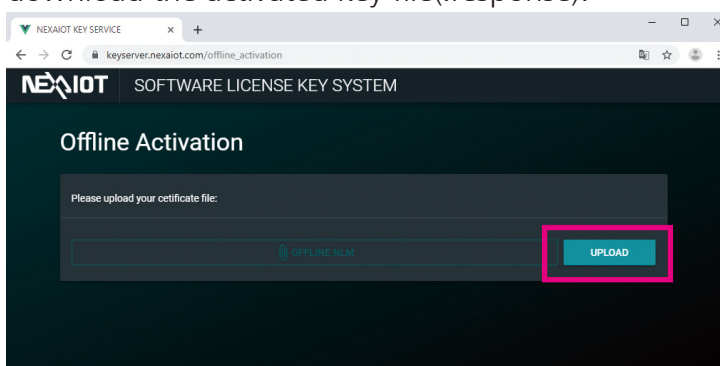

Results		Messages			
	id	nodeid	value	ts	
36	36	6002	0	2019-08-28 00:08:19.497	
37	37	6001	85	2019-08-28 00:09:53.490	
38	38	6002	40	2019-08-28 00:09:55.990	
39	39	6001	11	2019-08-28 00:09:58.497	
40	40	6002	65	2019-08-28 00:10:01.493	
41	41	6001	74	2019-08-28 00:10:04.500	
42	42	6002	34	2019-08-28 00:10:06.990	
43	43	6001	49	2019-08-28 00:10:09.497	
44	44	6002	55	2019-08-28 00:10:11.997	
45	45	6001	7	2019-08-28 00:10:14.490	
46	46	6002	47	2019-08-28 00:10:17.990	
47	47	6001	99	2019-08-28 00:10:21.993	
48	48	6002	3	2019-08-28 00:10:25.000	
49	49	6001	74	2019-08-28 00:10:28.497	

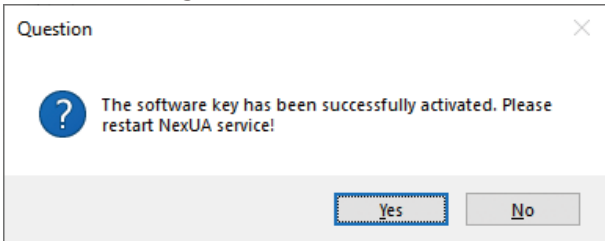
2.6 License

The License page displays the **NexUA Server Version Information** and the **Product details**. Also, this page allows you to register the product key online or offline.



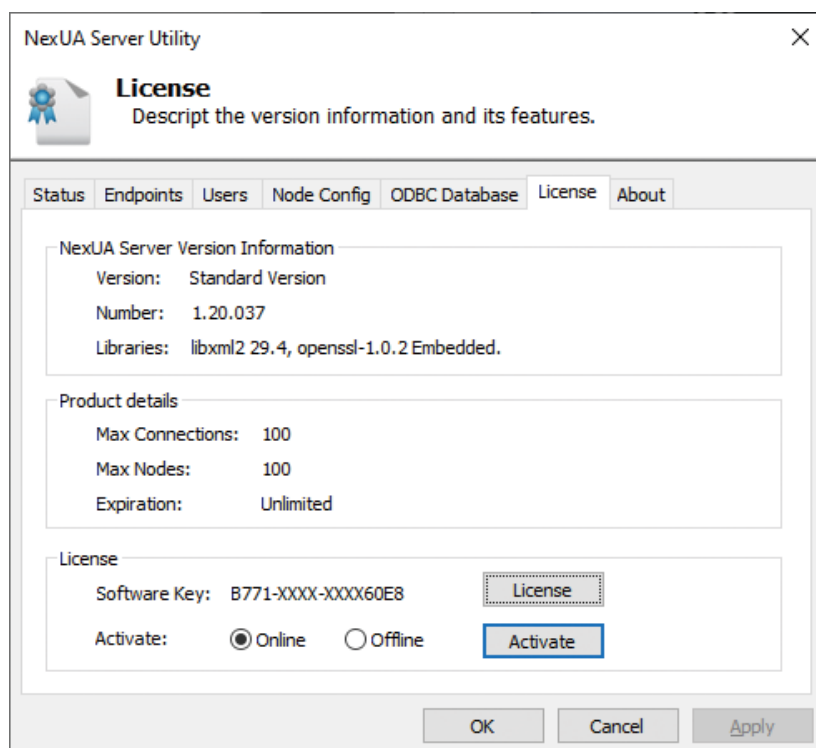
Item	Name	Description
1	License	<p>Click License and enter your software key in the respective fields. Click OK when done.</p> 
2	Online Activation	<p>Change the radio button to Online. Click Activate directly after entering the software key. You'll see the below message box when the activation succeeds.</p>  <p>The entered product key will introduce a respective version of NexUA Server displayed in NexUA Server Version Information and on the title of the GUI.</p>
3	Offline Activation	<p>Offline activation is designed for the fields where gateways cannot connect to the Internet. Change the radio button to Offline. Click Export and save the software key file(.nlm).</p> 

Item	Name	Description
		<div data-bbox="691 285 1091 525">  </div> <p>And then go to NexAloT Software License Key System: https://keyserver.nexaiot.com/offline_activation</p> <div data-bbox="691 646 1406 980">  </div> <p>Click SELECT FILE HERE to upload the key file you've just exported. Then click UPLOAD to download the activated key file(.response).</p> <div data-bbox="691 1136 1406 1499">  </div> <div data-bbox="691 1499 862 1541">  </div>

Item	Name	Description
		<p>Go back to the utility and click Import to put the file you've just downloaded on Key Server. You'll see the below message box when the activation succeeds.</p>  <p>The entered product key will introduce a respective version of NexUA Server displayed in NexUA Server Version Information and on the title of the GUI.</p>

After completing the license activation, you can view the changes on **NexUA Server**.

NexUA Server Version Information and **Product details** sections.



NexUA Server Utility

License
Describe the version information and its features.

NexUA Server Version Information

Version: Standard Version
 Number: 1.20.037
 Libraries: libxml2 29.4, openssl-1.0.2 Embedded.

Product details

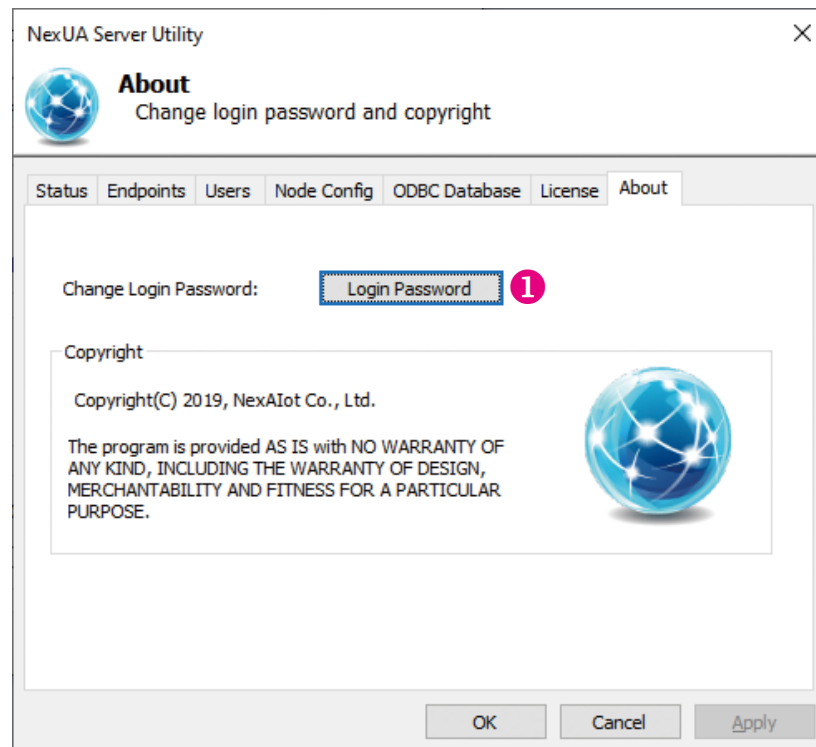
Max Connections: 100
 Max Nodes: 100
 Expiration: Unlimited

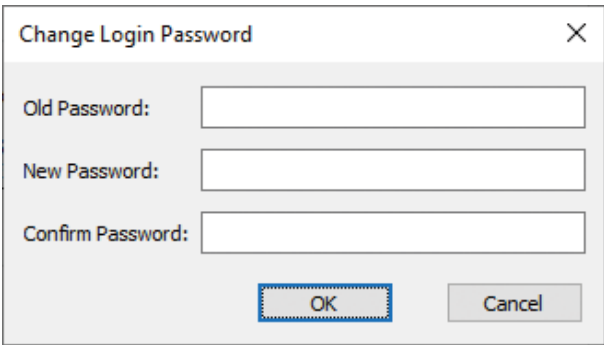
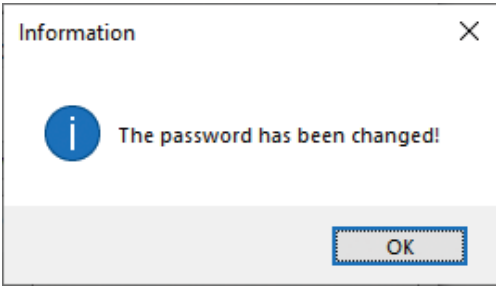
License

Software Key: B771-XXXX-XXXX60E8
 Activate: ☒ Online ☐ Offline

2.7 About

In this page, you can view copyright notice and change the login password for NexUA Server management.



Item	Name	Description
1	Login Password	<p>Click Login Password to change the login password. Enter the text in the respective fields, and click OK when done. A message will prompt you that the password has been changed.</p>   <p>If the input password is invalid, please enter it again.</p> 