



# MOXA ThingsPro Proxy Software User Manual

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## MOXA ThingsPro Proxy Software User Manual



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## Introduction

ThingsPro Proxy (TPP) is a Windows-based provisioning tool for batch configuring Moxa IIoT gateways according

to specific provisioning plans (hereinafter referred to as “plans”). The provisioning plans include details such as device configuration, cloud-enrollment information, and security settings. The ThingsPro Proxy plans allow field operators to quickly configure/enroll Moxa devices without requiring domain knowledge and without having to go through complex steps, thereby reducing the cost of operation. The device provisioning tasks can be linked to a plan for quick and effortless provisioning.

ThingsPro Proxy can be download from the Moxa website and installed in a Windows 10 environment. Version 3.0 of this user’s manual is based on ThingsPro Proxy v1.2.0. ThingsPro Proxy leverages the ThingsPro Edge software installed on Moxa devices to provision the devices.

ThingsPro Proxy and ThingsPro Edge together provide your devices with an IIoT gateway solution that includes streamlined data transportation from the endpoint to the cloud. Therefore, to provision Moxa devices via ThingsPro Proxy, you will need to install ThingsPro Edge (TPE) on the devices.

## Installation Guide

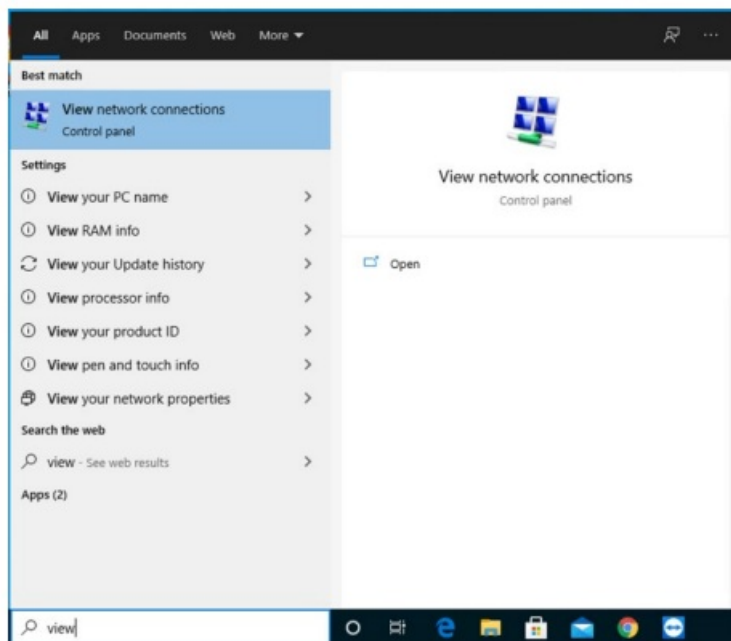
### Installing ThingsPro Proxy

#### Prerequisites

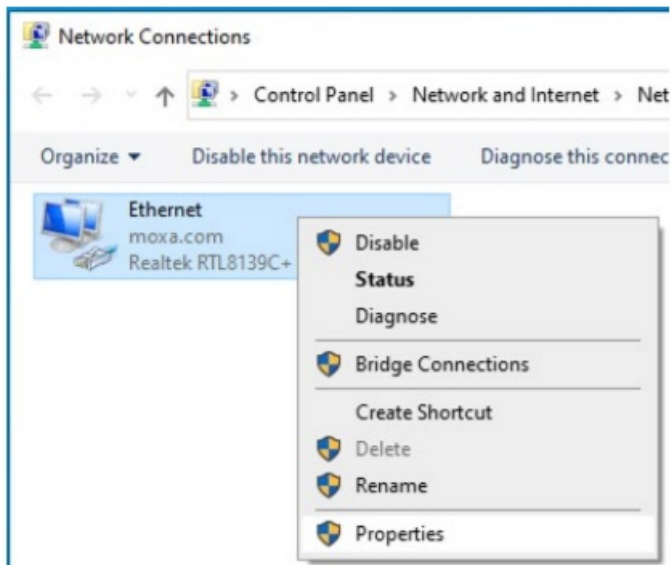
1. PC with Windows 10 OS and Google Chrome browser.
  - Windows 10 version 1809 or later
  - Google Chrome 86.0.4240.183 (64 bit) or later
2. Enable the Link-local IPv6 address on the PC.

To enable the Link-local IPv6 address, do the following:

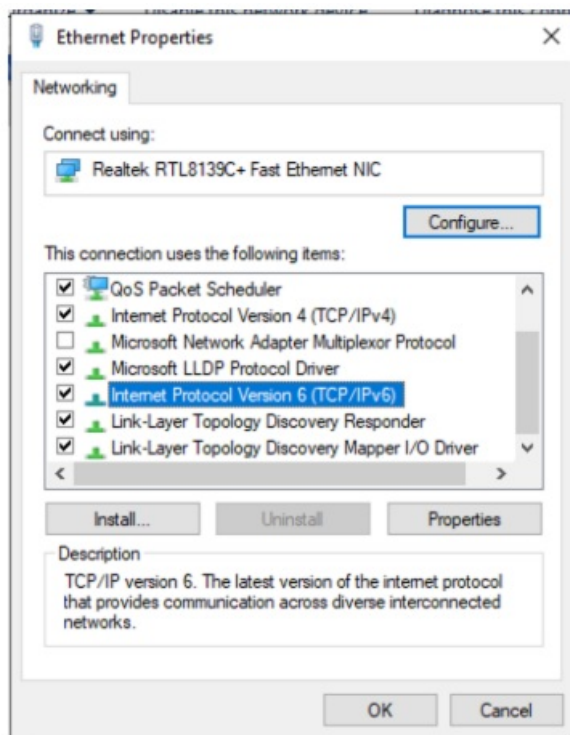
- In the Windows Search box, enter view network connections and click Open.



- Select the network adapter that will be used to discover Moxa devices, right-click the network adapter, and select Properties



- Select the Internet Protocol Version 6 (TCP/IPv6) option.



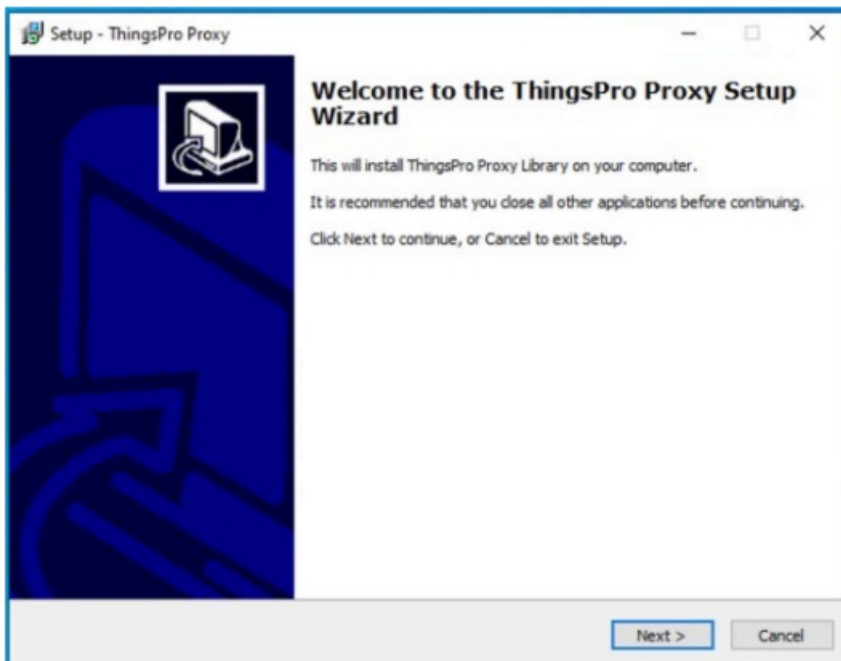
**NOTE** Ensure that the service port 5001 (local host) is available for the ThingsPro Proxy web server.

3. Click OK to apply the changes.

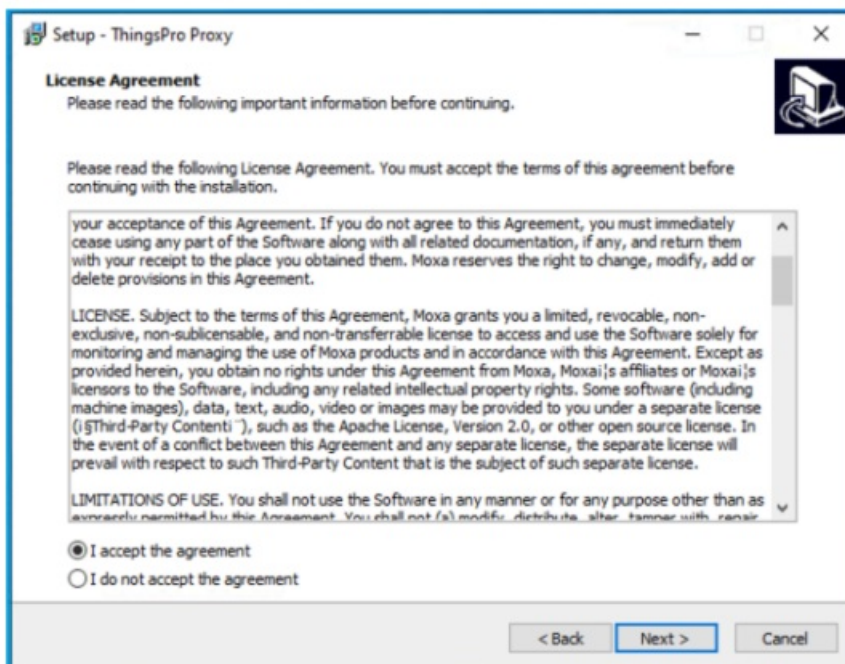
## Installation

**To install the ThingsPro Proxy App, do the following:**

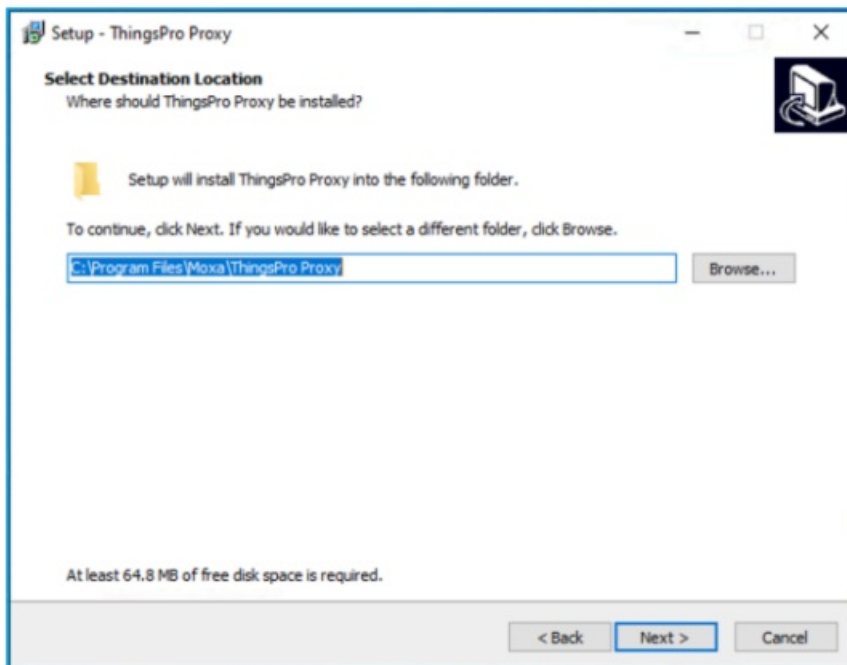
1. Download and run the ThingsPro Proxy installation file ThingsProProxySetup -x.x.x- yyyy mm dd.



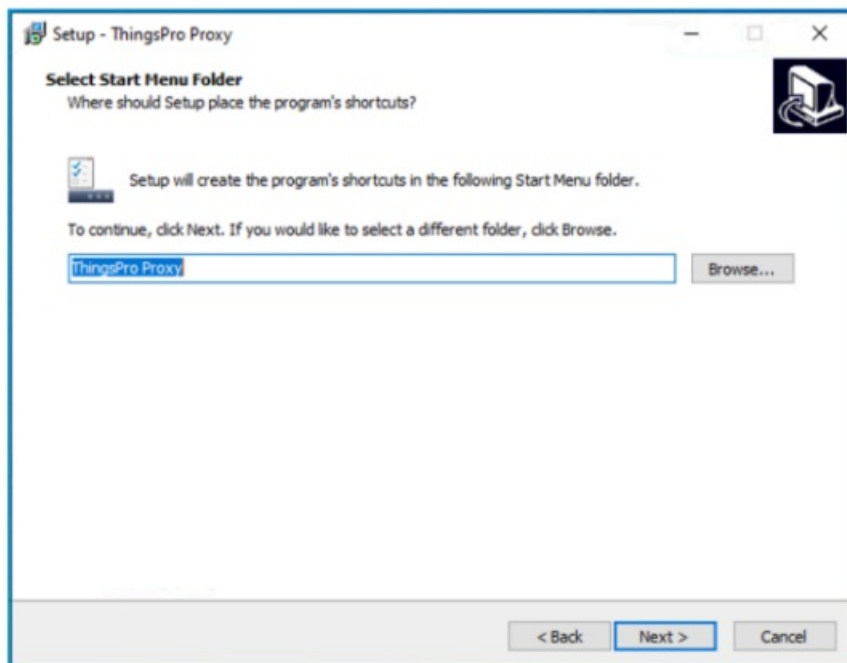
2. Click Next.
3. Select the I accept the agreement option and click Next.



4. Specify the folder to install ThingsPro Proxy in and click Next.

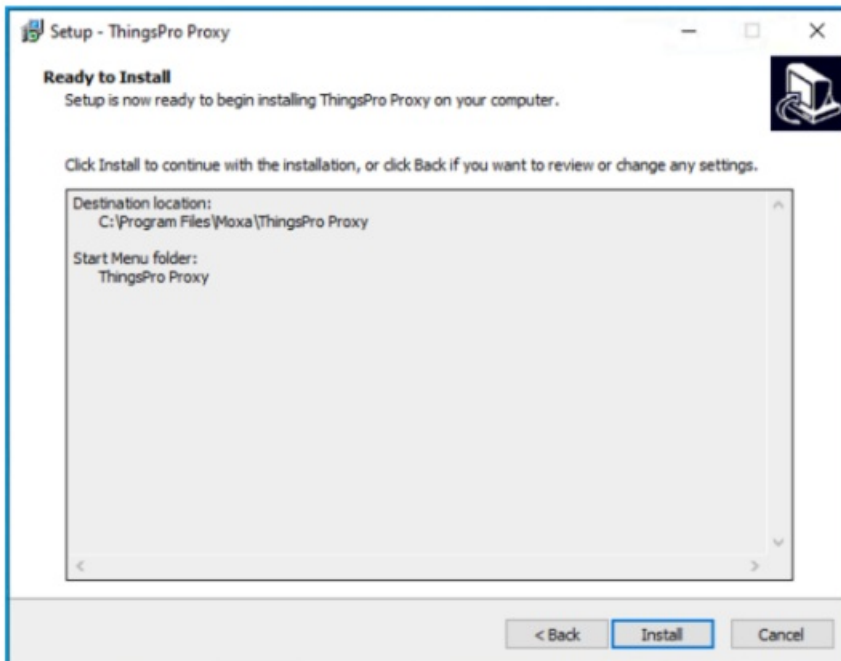


5. Specify the folder to create the ThingsPro Proxy shortcut in and click Next.

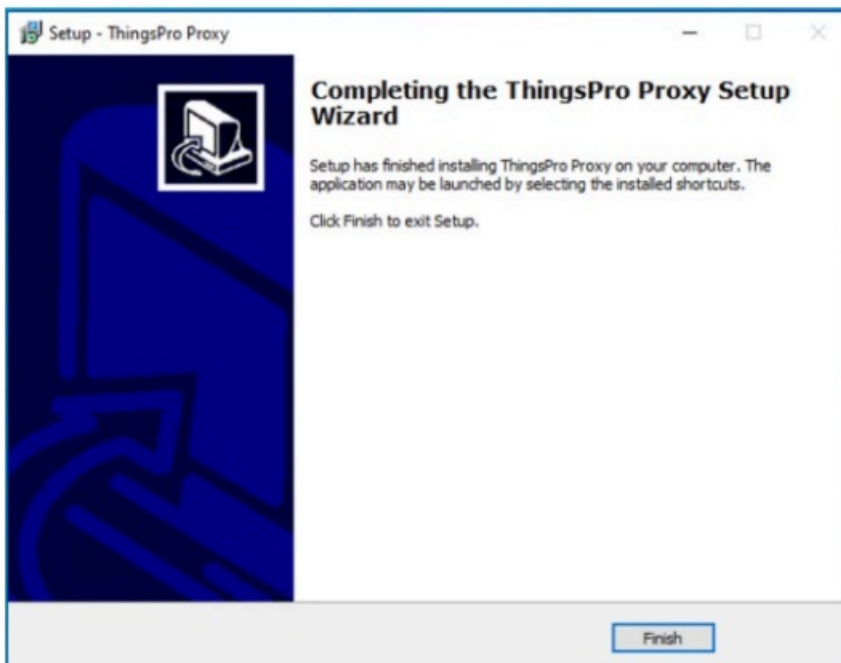


6. Click Install.

**NOTE** A command line console window (Windows cmd) will open during the installation process. DO NOT close the cmd window.



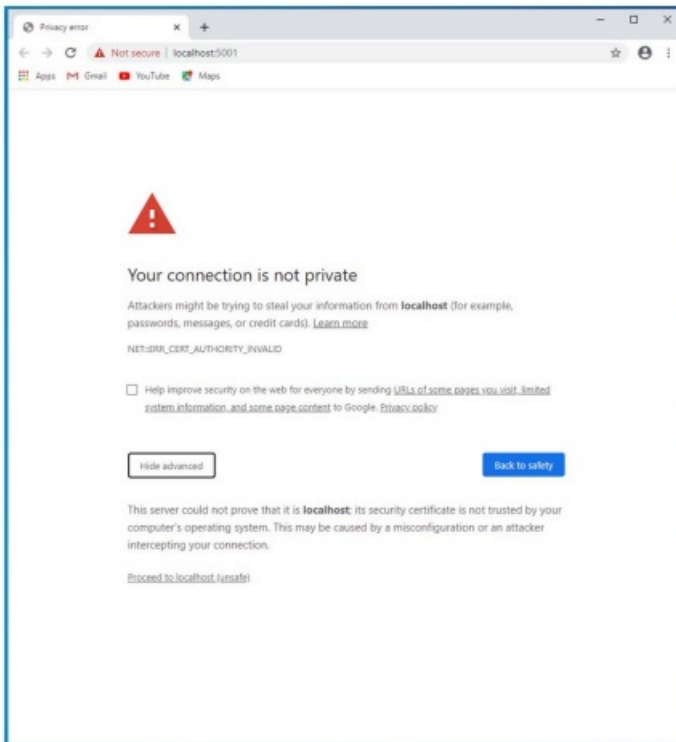
7. After the installation process is complete, click Finish



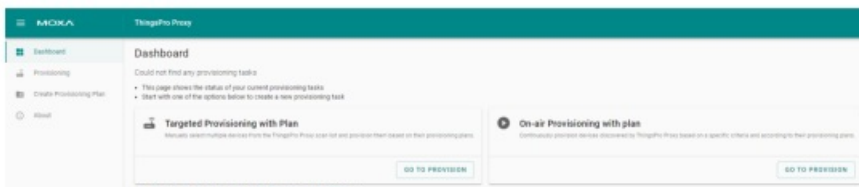
8. Launch the ThingsPro Proxy App.

A webpage with privacy-related warnings will open.

9. Click Advanced.



10. Click Proceed to localhost (unsafe).



**NOTE** ThingsPro Proxy utilizes HTTPS to communicate with the web server. The Chrome browser will display a warning because the unsigned certificate used is flagged as a security issue.

## Configuring ThingsPro Proxy

You will require at least one provisioning plan in ThingsPro Proxy before you can provision devices.

### Creating a Provisioning Plan

A wizard will guide you through the process of creating a provisioning plan, which includes software upgrade, configuration import, cloud enrollment, and security settings. You can also view the settings before finalizing the plan.

To create a provisioning plan, do the following:

1. Click on the Create Provisioning Plan link.

ThingsPro Proxy

## Create Provisioning Plan

Plan introduction

Create a plan to provision devices with time calibration and pre-defined settings listed below :

- ThingsPro Edge installation
- Software upgrade
- Configuration import
- Cloud enrollment
- Security setting
- Linux command

Select target device model

Mode

Non-Specific Model

START

2. Select the target device model and click START.
3. Specify the ThingsPro Edge (TPE) Installation settings and click NEXT. You can enable/disable the TPE installation settings using the Add ThingsPro Edge installation settings to plan slider. The system will install the latest version of ThingsPro Edge that is compatible with the firmware version on the device.

ThingsPro Proxy

## Create Provisioning Plan

- 1 ThingsPro Edge Installation
- 2 Upgrade Software
- 3 Import Configuration
- 4 Cloud Enrollment
- 5 Security Settings
- 6 Linux Command
- 7 Summary
- 8 Finish

### ThingsPro Edge Installation

☒ Add ThingsPro Edge installation settings to plan

Select the ThingsPro Edge (TPE) version to install

- Provisioning device configuration and cloud enrollment require TPE installed on the devices
- This process only takes effect on the devices in which TPE aren't installed yet. For service packs and updates installation, please go to Software upgrade to set them up.

Install version

Latest version compatible with the device firmware

CANCEL NEXT >

4. Specify the software upgrade settings and click NEXT.
  - A. You can enable/disable software upgrade using the Add software upgrade pack to plan slider.
  - B. If you have enabled software upgrade, choose a method to upgrade the software pack—Auto or manual—and browse to the folder path or specify the cloud URL.



ThingsPro Proxy

← Create Provisioning Plan

- ThingsPro Edge Installation
- 2 Upgrade Software**
- 3 Import Configuration
- 4 Cloud Enrollment
- 5 Security Settings
- 6 Linux Command
- 7 Summary
- 8 Finish

**Software Upgrade**

☒ Add software upgrade pack to plan

Select upgrade pack source

Upgrade Mode  
Auto

☒ Check for update  
The targeted devices will be upgraded to the latest software packages.

← BACK CANCEL NEXT >

- To import a configuration file, enable the Add configuration settings to plan slider, browse to the file, and specify the associated Password. Click NEXT

ThingsPro Proxy

← Create Provisioning Plan

- ThingsPro Edge Installation
- Upgrade Software
- 3 Import Configuration**
- 4 Cloud Enrollment
- 5 Security Settings
- 6 Linux Command
- 7 Summary
- 8 Finish

**Import Configuration**

☒ Add configuration settings to plan

Select configuration file to be uploaded

Configuration File  
BROWSE...

Configuration Password

← BACK CANCEL NEXT >

- (optional) In the Cloud Enrollment page, click Manage and select Edit to change the settings. To add more cloud services, click + Add another

ThingsPro Proxy

← Create Provisioning Plan

- ThingsPro Edge Installation
- Upgrade Software
- Import Configuration
- 4 Cloud Enrollment**
- 5 Security Settings
- 6 Linux Command
- 7 Summary
- 8 Finish

**Cloud Enrollment**

☒ Add cloud service settings to plan

Enroll on to the cloud server

Not selected cloud server  
not completed

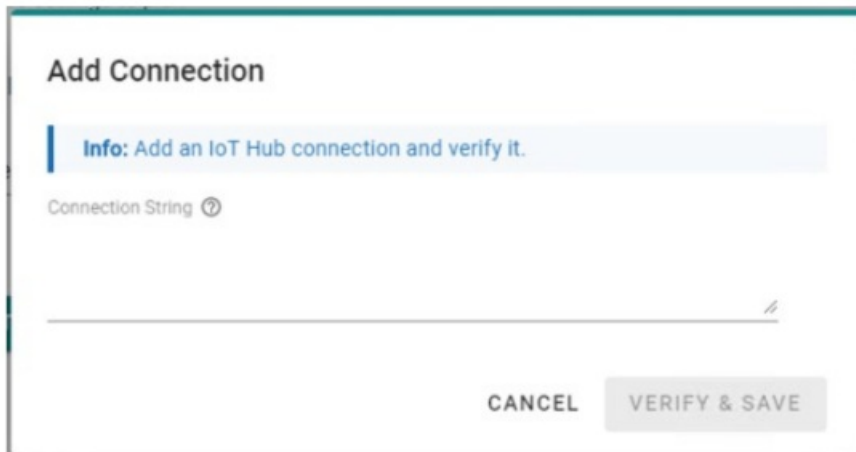
MANAGE

+ Add another

← BACK CANCEL NEXT >

## A. Azure IoT Hub Service/Azure IoT Edge

Enter the Connection String and click VERIFY & SAVE.



The screenshot shows a dialog box titled "Add Connection". At the top, there is an information bar that says "Info: Add an IoT Hub connection and verify it." Below this, there is a label "Connection String" with a help icon. A text input field is provided for the connection string. At the bottom right, there are two buttons: "CANCEL" and "VERIFY & SAVE".

If you want to edit the Connection String, click EDIT.

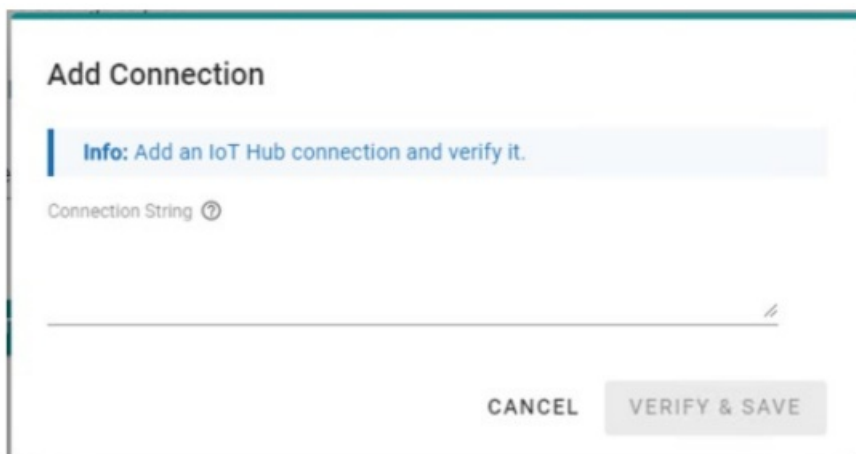
The Device ID is auto generated by using the serial number of the device and authenticated via a symmetric key.



The screenshot shows a dialog box titled "Add cloud service settings to plan". It has a toggle switch at the top labeled "Add cloud service settings to plan". Below this, there is a section "Enroll on to the cloud server" with a dropdown menu for "Server Type" set to "Azure IoT Hub Device". Underneath is a section "Configure an IoT Hub connection" which shows a status "IoT Hub connection" as "Verified" with a green checkmark. Below the status, the "Connection String" is displayed as "HostName=thingspro-iotHub-newTwinn.azure-devices.net;Shared...". There is an "EDIT" button to the right of the connection string. At the bottom, there is a section "Enrollment settings" with a dropdown for "Device ID" set to "Auto-generated by serial number" and a dropdown for "Authentication Type" set to "Symmetric key".

## B. Azure IoT DPS

i. Enter the Connection String and click VERIFY & SAVE.



The screenshot shows a dialog box titled "Add Connection". At the top, there is an information bar that says "Info: Add an IoT Hub connection and verify it." Below this, there is a label "Connection String" with a help icon. A text input field is provided for the connection string. At the bottom right, there are two buttons: "CANCEL" and "VERIFY & SAVE".

If you want to edit the Connection String, click EDIT and enter the ID Scope. The Device ID is auto generated using the serial number of the device and authenticated via a symmetric key.

**MOXA** ThingsPro Proxy

Dashboard  
Provisioning  
**Create Provisioning Plan**  
About

Enrollment settings

**Id Scope**

The value is required

Device Id ⓘ

Auto-generated by serial number ▼

Authentication Type

Symmetric key ▼

IoT Edge Device

☐ The provisioning device is an IoT Edge-capable device

Assign Policy ⓘ

Evenly weighted distribution ▼

Assign To IoT Hubs ⓘ

The value is required

Re-provisioning Policy ⓘ

Re-provision and migrate data ▼

Initial Device Twin State

```
{
  "properties": {
    "desired": {}
  }
}
```

← BACK

- ii. (optional) Select The provisioning device is an IoT Edge-capable device.
- iii. Select an Assign Policy.
- iv. Enter the name of the IoT Hubs.
- v. Select a Re-provisioning policy.
- vi. (optional) Customize the Initial Device Twin State.
- vii. Click NEXT.

### C. Moxa DLM Service

- i. Select the service type Moxa DLM Service.
- ii. Enter an Email (account) and Password.

**Edit Connection**

**Info:** Add a ThingsPro cloud connection and verify it.

Email

aaa@moxa.com

Password

\*\*\*\*

CANCEL VERIFY & SAVE

- iii. Select a project name to register devices.

ThingsPro Proxy

← Edit cloud Enrollment Setting

Select server type

Server Type  
Moxa DLM Service

Configure an Moxa DLM connection

Moxa DLM connection  
Verified  
Email: athredth.ig@moxa.com  
Password: [masked] EDIT

Enrollment settings

Project Name  
ThingsPro Edge Project

Authentication Type  
X.509

Connection  
☒ Enable auto-connect

← BACK CANCEL DONE

iv. Click NEXT.

7. (optional) You can disable a provisioning service to prevent devices from being discovered or modify the current password. Click NEXT to apply the changes.

Set security settings on devices

☒ **Disable Provision Service**  
These devices cannot be found after provision service gets disabled

☒ **Change password**

Password 👁

Confirm Password 👁

8. (optional) You can upload Linux command scripts and deploy them to targeted devices. The supported file formats include tar.gz, bash, binary, executables, and Python3 package.

9. Specify a plan name, assign a password, and click CREATE.

The password is used to encrypt the plan and then decrypt it before importing the plan.

10. Click DOWNLOAD & FINISH to download the plan. The plan will be downloaded as a \*.zip file.

**NOTE** ThingsPro Proxy uses plans to provision devices. Plans can be stored in a secure location and used in the different workplaces where ThingsPro Proxy is installed.

## Provisioning Devices

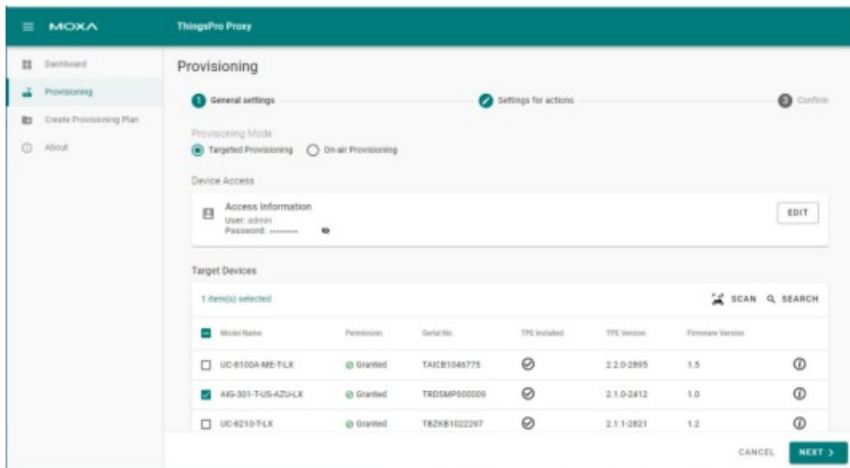
There are two ways to provision devices: Targeted Provisioning and On-air Provisioning.

- **Targeted Provisioning:** You can specify a batch of devices for provisioning based on the device model, firmware version, ThingsPro Edge version, and communication interfaces.
- **On-air Provisioning:** ThingsPro Proxy will automatically scan all compatible devices in LAN and batch deploy the configuration based on the specified plan.

**NOTE** ThingsPro Proxy relies on the UDP port 40404 for scanning devices in the same network. Be sure to add UDP port 40404 to the firewall whitelist for proper device discovery.

## To provision devices, do the following:

1. After you have created a provisioning plan, click on the Provisioning link.
2. Choose the type of provisioning: Targeted Provisioning or On-air Provisioning.

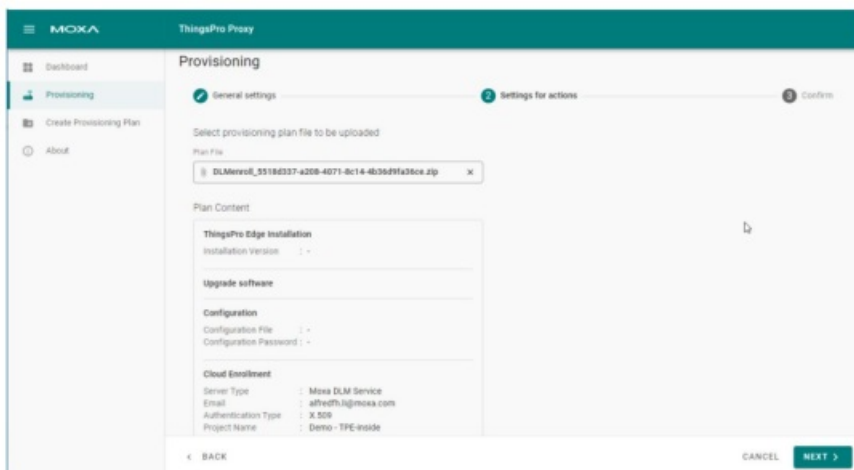


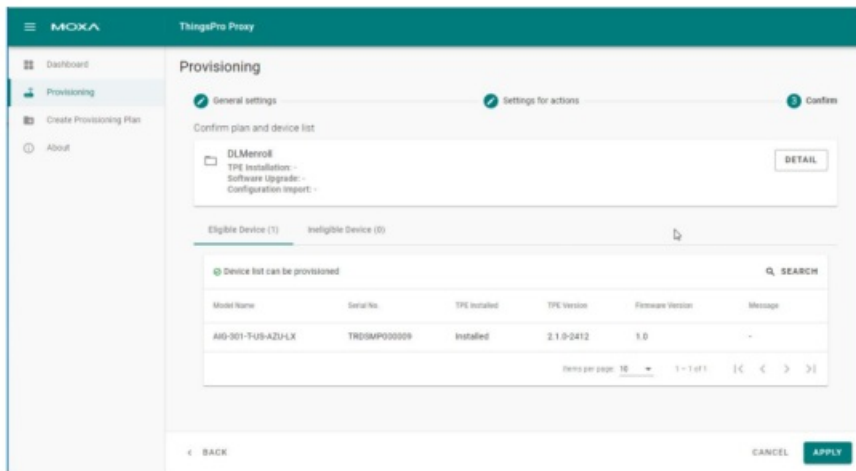
Devices will be accessed using their default credentials (Account: admin; Password: admin@123). You can click EDIT to change the default credentials so that the devices whose default credentials have been changed can be discovered.

3. (optional) Edit the default credential to discover your devices.
4. Select devices to discover or press SCAN to re-scan the LAN for devices.
5. Click NEXT.
6. Press BROWSE... to select a plan and enter the associated password.
7. Click UPLOAD.
8. Click NEXT.
9. Click APPLY.

**NOTE** For ThingsPro Proxy to be able to discover devices properly, the Ethernet interfaces should have a proper IP address, subnet mask, and default gateway configured. We suggest enabling a DHCP server to allocate IP addresses to devices instead of assigning them manually.

**NOTE** Before running the provisioning plan, ThingsPro Proxy will synchronize your server time on to the devices.





## Known Issues and Limitations

1. ThingsPro Proxy v1.x.x does not support running multiple plans simultaneously.
2. A connection failed message is displayed if the Ethernet interfaces are not able to get an IP address assigned after ThingsPro Edge is installed. The LAN1 interface of ThingsPro Edge is DHCP enabled by default and this error results in the ThingsPro Proxy not being able to access ThingsPro Edge.  
**NOTE** If devices are discovered via Wi-Fi (Client mode), they cannot be provisioned (grayed-out in the search results).
3. DO NOT insert SIM cards before the provisioning process is complete.
4. ThingsPro Edge has about 15 minutes to provisioning a device after it is powered on. Before starting the provisioning process, ensure that the ThingsPro Proxy is ready and the devices are powered on.
5. The time taken to install ThingsPro Edge (TPE) is subject to the capacity of the devices. For example, it might take around 30 minutes to install TPE on a UC-8100A-ME-T Series device.
6. If the TPP web GUI is disconnected for an extended period and does not reconnect, you can stop and restart the service. Click on the Windows Start button and select the ThingsPro Proxy folder. Click Stop ThingsPro Proxy Service and then Start ThingsPro Proxy Service to relaunch the TPP service.
7. Devices newly registered with AWS IoT Core sometimes require a reboot to be available.

## Trademarks

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## Disclaimer

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### Technical Support Contact Information

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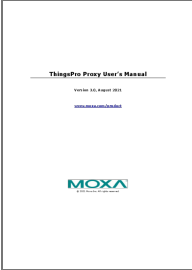
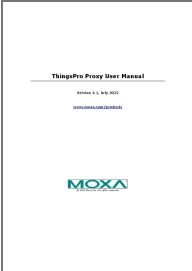
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### Documents / Resources

	<a href="#">MOXA ThingsPro Proxy Software</a> [pdf] User Manual ThingsPro Proxy Software
	<a href="#">MOXA ThingsPro Proxy</a> [pdf] User Manual ThingsPro Proxy

### References

- [Moxa - Products](#)
- [Moxa - Support](#)