

如何将 Milesight 的网关和设备集成到 AMMI System 平台



Version Change Log			
Version	Revision Date	Revision Details	Revised By
V1.0	20250310	Initial	Lockon



前言

AMMI Systems Limited (也称为UMA) 是一家总部位于英国的科技服务公司，主要为企业提供信息通信技术解决方案和商业支持服务。公司的业务涵盖电信、管理咨询及行政支持等多个领域，致力于帮助客户实现数字化转型和运营效率提升。

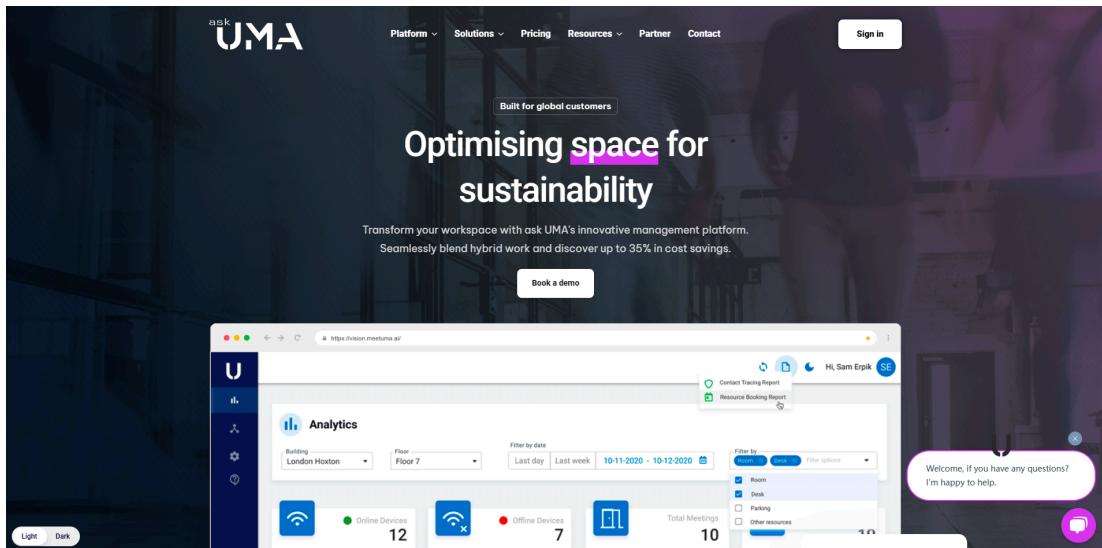
本文主要介绍如何使用 UG65 网关对接 UMA 平台，以及添加 AM308、AM319 设备作为示例进行演示，包括 Dashboard 等示例。

1. 前置条件

- 网关型号：UG65（固件版本 v60.0.0.45）或者 UG56、UG67 也可以
- 传感器型号：AM308 和 AM319，固件为 v1.6
- 本文演示用到的频段：915M (8-15 channel)

2. 注册账号

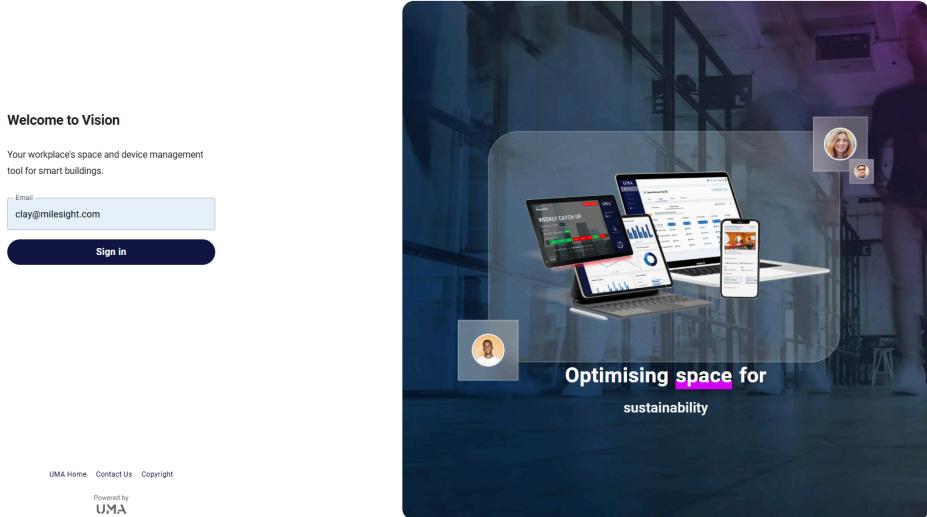
访问 <https://askuma.ai/> 点击 "Book demo" 按钮按照提示填写信息即可：



UMA 的工作人员收到请求后，会进一步联系你，最终你会获取到平台的账号信息，以及平台分配的 MQTT Broker 配置信息。

3. 首次登录

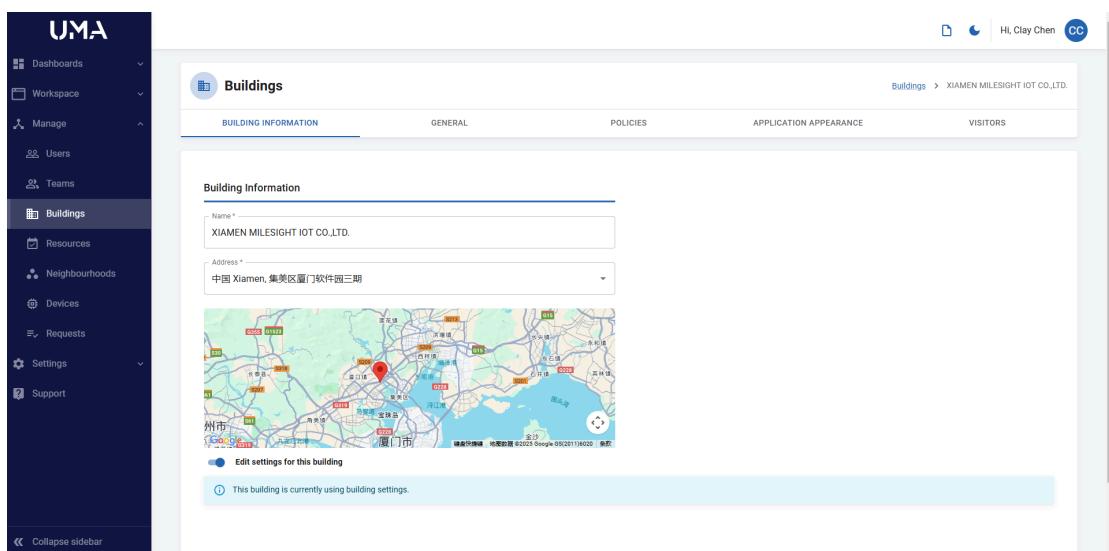
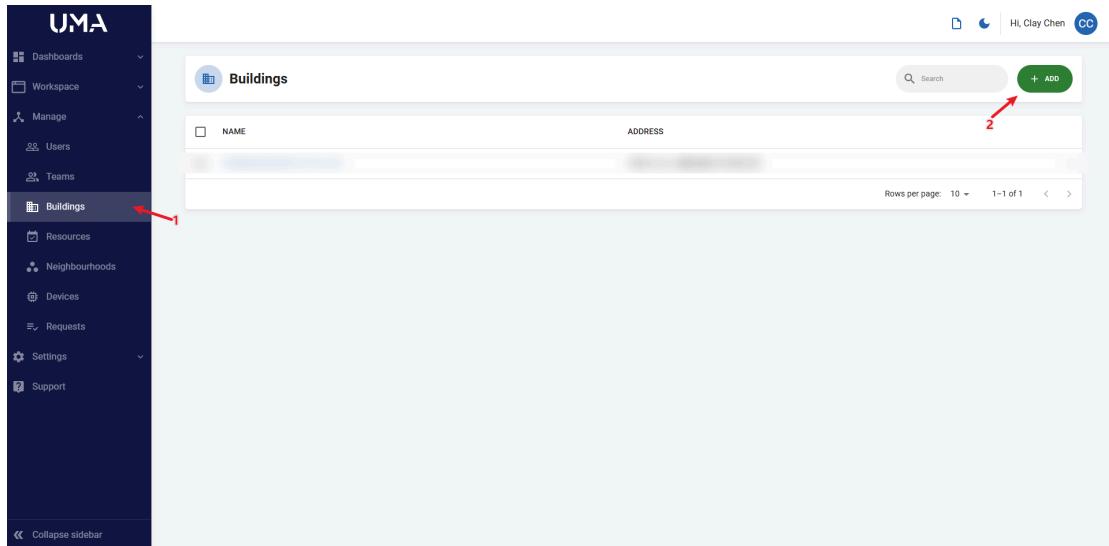
访问 <https://vision.meetuma.ai/login> 登录即可：



平台会根据你提供的基本信息创建一个默认的 Company 记录，你可以参考下面的截图，根据实际情况修改里面的信息：

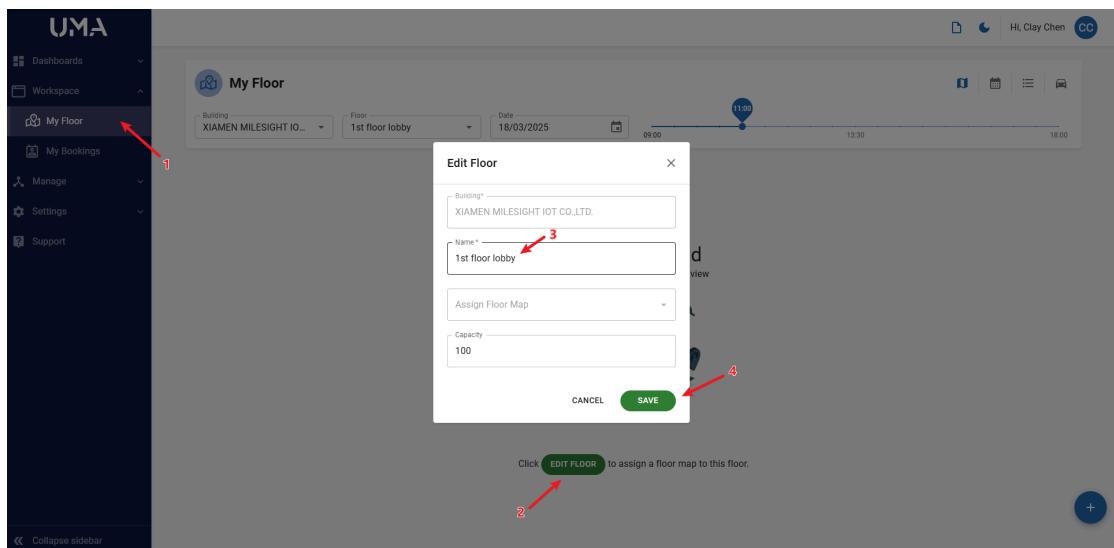
4. 创建 Building

接下来，需要创建一个 Building，参考下面的截图操作即可：

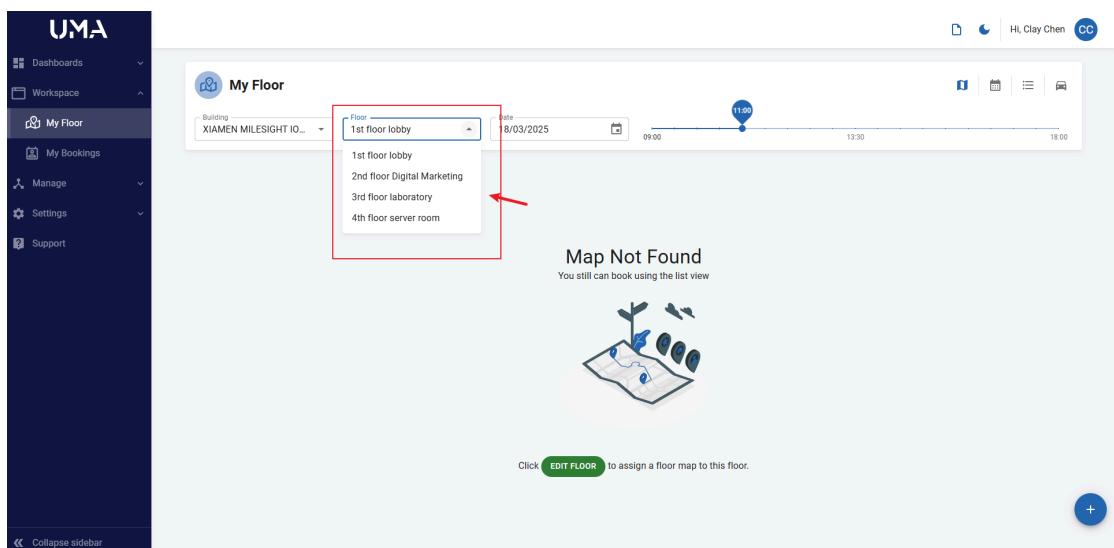


5. 创建 Floor

接下来我给 Building 创建 Floor , 为了方便演示, 这里我已 Milesight 的建筑物为示例进行配置, 如图操作即可:

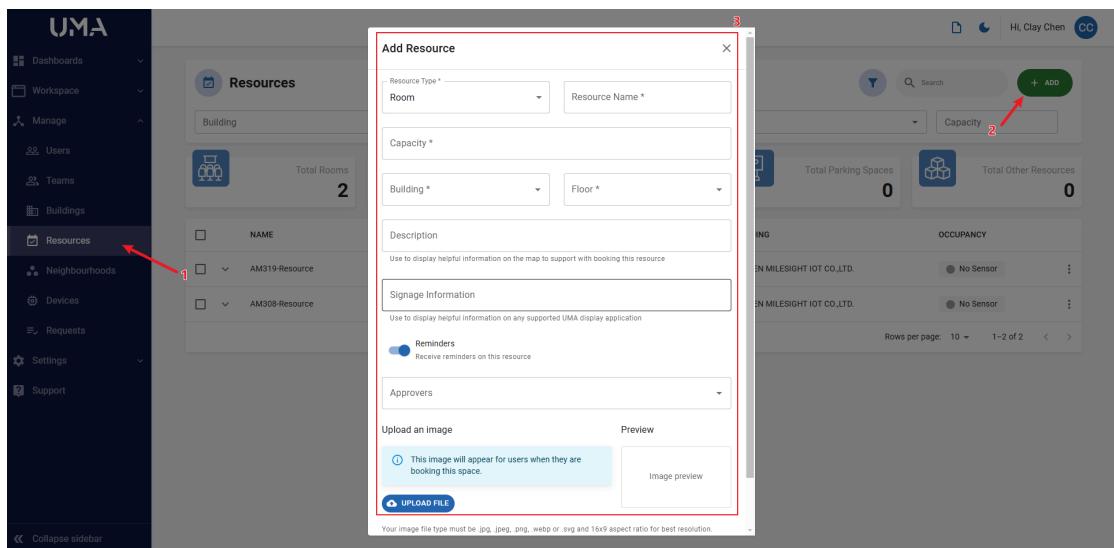


这里累积创建了 4 个楼层作为演示，接下来我们演示用的设备将会全部添加到 1 楼：



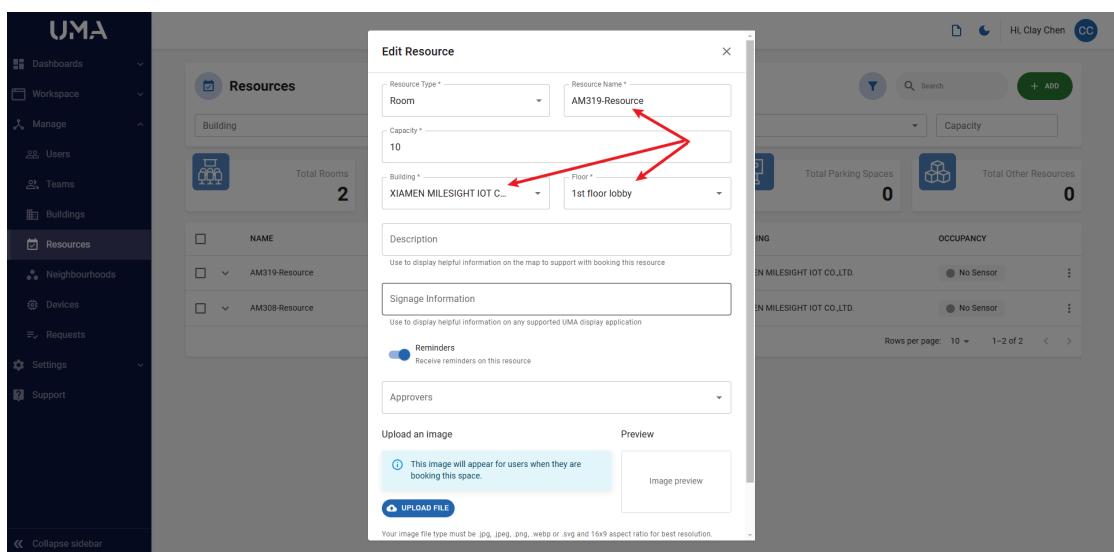
6. 创建 Resources

接下来创建 Resource 记录，这一步主要是配置 Sensor 和 Floor 之间的归属关系的，参考下面的截图操作即可：



这里，由于我们有两种设备类型，所以需要创建两条记录，分别给 AM308 和 AM319 使用。

下面是 Sensor 、 Floor、 Building 的关联关系的示意图：



至此，我们在 UMA 平台上面的基础配置就完成了，接下来开始配置我们的网关。

7. 配置网关

7.1. 开启内置 NS:

首先参考下面的截图，开启设备内置的 NS：

This screenshot shows the Milesight gateway configuration interface. The left sidebar is dark blue with white text, listing various sections like Status, Packet Forwarder, Network Server, etc. The 'Network Server' section is currently selected and highlighted in blue. The main panel has a light gray header with tabs: General, Applications, Payload Codec, Profiles, Device, Multicast Groups, Gateway Fleet, and Packets. The 'General' tab is active. Below it, there's a 'General Setting' group with several fields: 'Enable' (checkbox checked, indicated by a red arrow 1), 'Platform Mode' (checkbox unchecked), 'NetID' (text input: 010203), 'Join Delay' (text input: 5 sec), 'RX1 Delay' (text input: 1 sec), 'Lease Time' (text input: 8760-0-0 hh-mm-ss), and 'Log Level' (dropdown: Info). There's also a 'Global Channel Plan Setting' group with 'Channel Plan' (dropdown: US915) and 'Channel' (text input: 8-15). At the bottom is a blue 'Save & Apply' button, which is also highlighted with a red arrow 3.

This screenshot shows the 'Multi-Destination' settings for the Network Server. A red arrow 1 points to the 'Network Server' section in the sidebar. The main panel has tabs: General, Radios, Advanced, Custom, and Traffic. The 'General' tab is active. It shows 'Gateway EUI' (24E124FFFEFA3300), 'Gateway ID' (24E124FFFEFA3300), 'Frequency Sync' (disabled), and 'Data Retransmission' (checkbox unchecked). The 'Multi-Destination' section contains a table with three rows (ID 0, 1, 2) and columns: ID, Enable, Type, Server Address, and Connect Status. Row 0 is 'Enabled' (checkbox checked, indicated by a red arrow 2), 'Type' (dropdown: Embedded NS, indicated by a red arrow 3), 'Server Address' (dropdown: localhost), and 'Connect Status' (Connected, indicated by a red arrow 4). Rows 1 and 2 are 'Disabled'. At the bottom are 'Packet Filters' and 'Proprietary Message Filter' sections.

This screenshot shows the main configuration page for the Milesight gateway. The left sidebar is dark blue with white text, listing Status, Packet Forwarder, Network Server, etc. The 'Packet Forwarder' section is selected and highlighted in blue. The main panel has a light gray header with tabs: General, Radios, Advanced, Custom, and Traffic. The 'General' tab is active. It shows 'Gateway EUI' (24E124FFFEFA3300), 'Gateway ID' (24E124FFFEFA3300), 'Frequency Sync' (disabled), and 'Data Retransmission' (checkbox unchecked). The 'Multi-Destination' section shows the same table as the previous screenshot, with row 0 now having 'Connect Status' (Connected) and 'Operation' (checkbox checked, indicated by a red arrow 1). The 'Packet Filters' and 'Proprietary Message Filter' sections are also visible at the bottom.

至此，我们的网关内置 NS 开启完毕。

7.2. 添加 AM308 和 AM319

参考 <[How to Connect LoRaWAN Nodes to Milesight Gateway](#)>操作即可，添加完毕后如下：

Device Name	Device EUI	Device Profile	Payload Codec	Application	Last Seen	Activated	Operation
AM308-LoRa	2AE124707E043923	ClassA-OTAA	AM308-UMA-Use	cloud	8 seconds ago	✓	☒
AM319-LoRa	2AE124710D371756	ClassC-OTAA	AM319-UMA-Use	cloud	33 seconds ago	✓	☒

7.3. 创建自定义 Decode

参考 <[How to Use Payload Codec on Milesight Gateway](#)>创建完毕后，还要根据下面的截图修改默认的 Decode 代码（需要在 return decode 之前添加平台要求的代码）：

```
126- decoded.history = decoded.history || []
127- decoded.history.push(data)
128- }
129- }
130- }
131- }
132- decoded.devEUI = LoRaObject.devEUI;
133- decoded.rssi = LoRaObject.rssi;
134- decoded.freq = LoRaObject.freq;
135- decoded.data = LoRaObject.data;
136- decoded.time = new Date().toISOString();
137-
138-
139-
140- function readDataMLE(bytes) {
141- var value = (bytes[1] << 8) + bytes[0];
142- }
```

同理，对于 AM308 和 AM319，都要分别创建各自的 Payload Codec，如图：

The screenshot shows the Milesight web interface under the 'Network Server' section. On the left sidebar, 'Payload Codec' is selected. In the main area, there's a table titled 'Custom Payload Codec' with columns: Name, Description, Payload Decoder Function, Payload Encoder Function, Object Mapping Function, and Operation. Two rows are listed: 'AM308-UMA-Use' and 'AM319-UMA-Use'. The 'Object Mapping Function' column for both rows contains a green checkmark. A red arrow points to the 'Object Mapping Function' column.

The screenshot shows the Milesight web interface under the 'Network Server' section. On the left sidebar, 'Device' is selected. In the main area, there's a table with columns: Device Name, Device EUI, Device Profile, Payload Codec, Application, Last Seen, Activated, and Operation. Two devices are listed: 'AM308-LoRa' and 'AM319-LoRa'. The 'Payload Codec' column for both devices contains the value 'AM308-UMA-Use'. A red arrow points to the 'Payload Codec' column.

配置完成后的 Sensor 的 Payload 内容结构应该如图所示：

The screenshot shows the Milesight web interface under the 'Network Server' section. On the left sidebar, 'Packets' is selected. In the main area, there's a table with columns: Device EUI, Type, Payload, Port, and Confirmed. A detailed 'Packet Details' modal is open over the table, showing 'Packet Details' with fields like CodeRate, SNR, RSSI, Power, Payload(b64), Payload(hex), and JSON. The JSON field contains a complex object structure. A red box highlights this JSON content.

7.4. 配置 MQTT 参数

如图操作，导航到 MQTT 的配置页面：

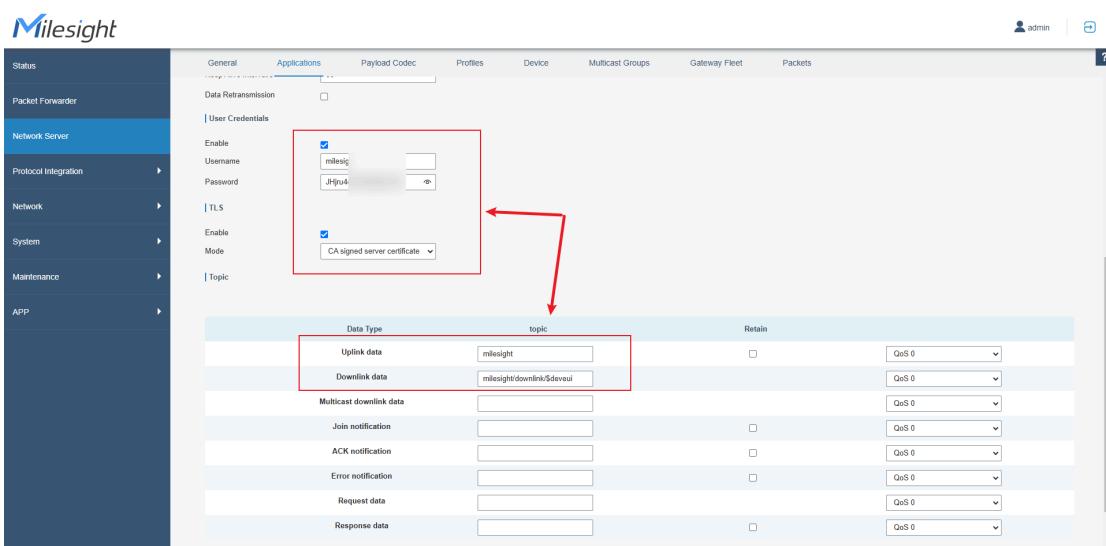
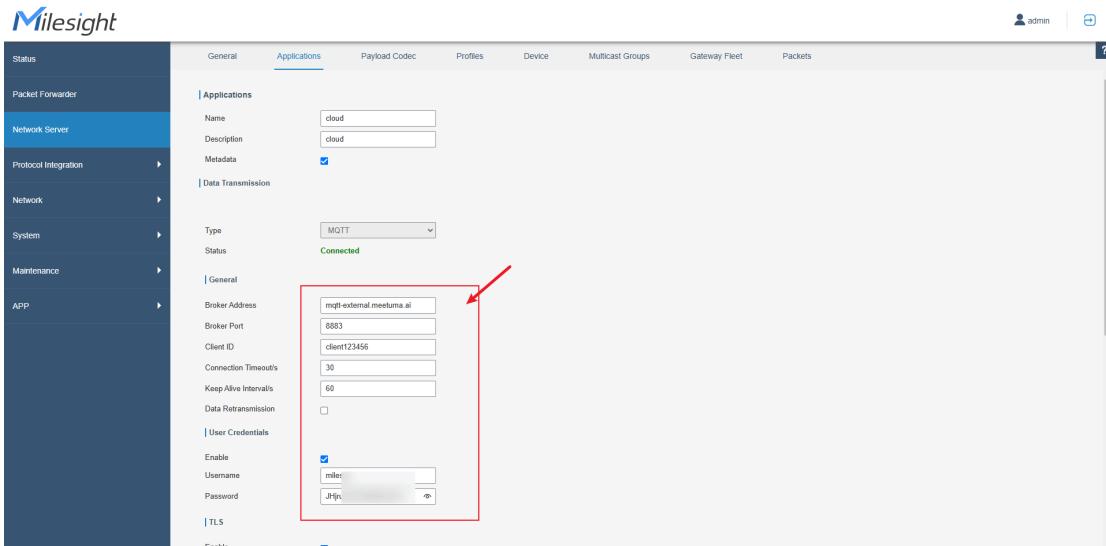
This screenshot shows the Milesight device configuration interface. The left sidebar has a 'Protocol Integration' section with 'Network Server' selected. The main content area is titled 'Applications' and contains a table with one row. Red arrows indicate three steps: 1 points to the 'Network Server' selection in the sidebar; 2 points to the 'Applications' tab in the top navigation bar; 3 points to the edit icon in the 'Operation' column of the table.

ID	Name	Description	Operation
1	cloud	cloud	

This screenshot shows the same configuration page as above, but with fields filled in. In the 'Applications' section, the 'Name' field is set to 'cloud' and the 'Description' field is also set to 'cloud'. The 'Type' field in the 'Data Transmission' table is set to 'MQTT'. A red arrow points to the 'Edit' icon in the 'Operation' column of the table.

Type	Operation
MQTT	

如图填写相关信息即可（这里的 MQTT Broker 参数，参考 第 2 步骤的内容）：



注意：

- 1、这里的 **Data Retransmission** 不要勾选
- 2、Uplink 的 Topic 路径是 **milesight**
- 3、Downlink 的 Topic 路径是 **milesight/downlink/\$deveui**

至此，我们网关上面的操作告一段落。

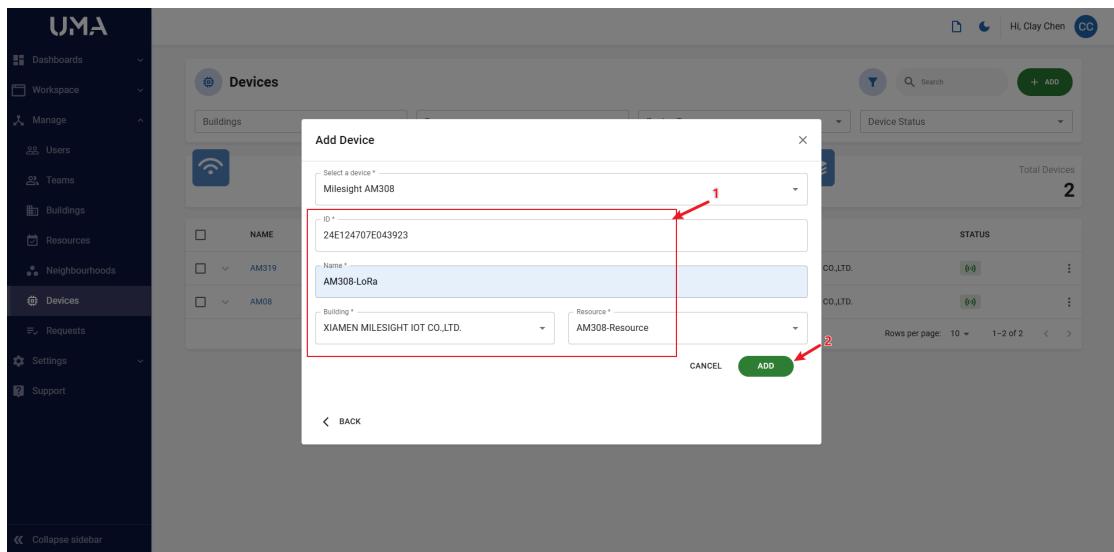
8. 添加 Device

回到我们的 UMA 平台的界面，如图操作：

The screenshot shows the UMA platform's Devices page. The sidebar on the left is dark blue with white text, showing navigation options like Dashboards, Workspace, Manage, Users, Teams, Buildings, Resources, Neighbourhoods, Devices (which is highlighted with a red arrow), Requests, Settings, and Support. The main area has a light gray background. At the top, there's a search bar with a magnifying glass icon and a green '+ ADD' button. Below the search bar, there are three status indicators: 'Devices Online' (2), 'Devices Offline' (0), and 'Total Devices' (2). A table lists two devices: 'AM319' and 'AM08'. Each row in the table includes columns for Name, Type, Last Seen, Resource, Building, and Status. The table footer shows 'Rows per page: 10' and '1-2 of 2'. Red arrows point to the '+ ADD' button and the 'Total Devices' count.

This screenshot shows the 'Add Device' dialog box over the Devices page. The dialog box has a title 'Add Device' and a close button 'X'. It contains five device icons: UMA, Meraki, webex, Jabra, and Milesight. The 'Jabra' icon is highlighted with a red arrow. At the bottom of the dialog box are 'CANCEL' and 'NEXT' buttons, with 'NEXT' being highlighted by a red arrow.

This screenshot shows the 'Add Device' dialog box again, but now with a selected device. The 'NAME' field contains the text 'am308' with a red arrow pointing to it. Below the field, the text 'Milesight AM308' is displayed with another red arrow. At the bottom of the dialog box are 'BACK' and 'NEXT' buttons, with 'NEXT' being highlighted by a red arrow.



注意，这里的 ID 是设备的 Device EUI 数据，点击“ADD”后，结果如下：

	NAME	TYPE	LAST SEEN	RESOURCE	BUILDING	STATUS
<input type="checkbox"/>	AM319	Milesight AM319	5 minutes	AM319-Resource	XIAMEN MILESIGHT IOT CO.,LTD.	(online)
<input type="checkbox"/>	AM308	Milesight AM308	5 minutes	AM308-Resource	XIAMEN MILESIGHT IOT CO.,LTD.	(online)

Occupancy
Available

Temperature
24°C

Humidity
36.5%

CO₂
630 ppm

Air Quality TVOC
1 mg/m³

Device Details

Serial Number	24e124710d371756	Gateway Signal	-40	Last Seen	18.03.2025
---------------	------------------	----------------	-----	-----------	------------

至此，我们可以看到，AM308 和 AM319 的数据都可以在平台上获取到，Device 添加成功。

9. 观察数据情况

回到我们的首页的 Dashboard，我们可以看到配置的 Building 的 Floor 的 Device 的数据情况：

-END-