



# **Agent MaaS Suite (AMS)**

## **MaaS User's Manual**

**v1.0**

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# Agent MaaS Suite

## MaaS

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### Release Note

Version	Revised Date	Author	Description
v1.0	2019/03/21	Brandon	- 1st release

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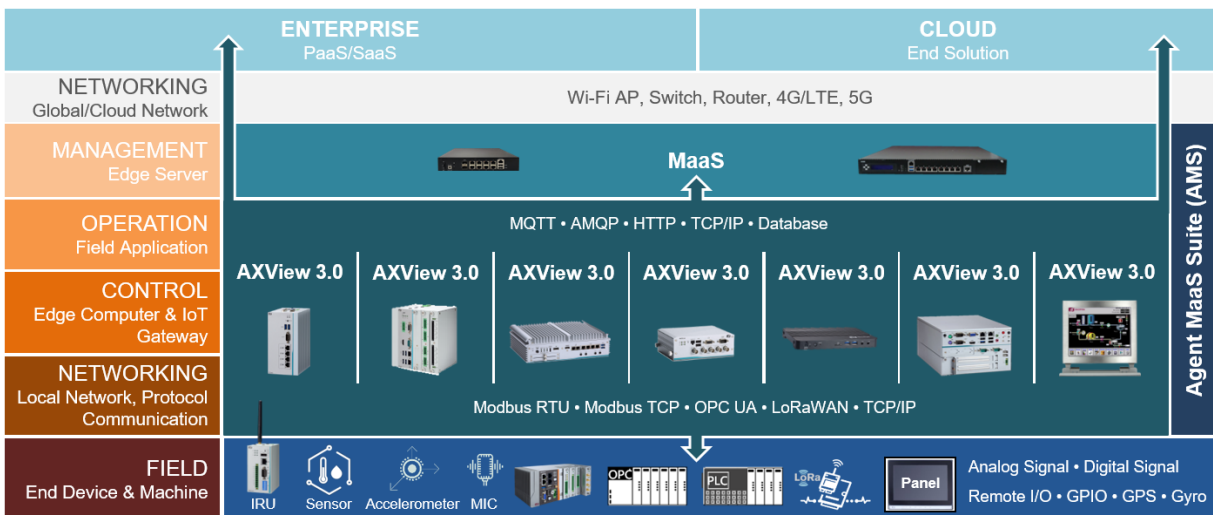
## AXView 3.0

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## 1 Introduction

### 1.1 Architecture

Agent MaaS Suite (AMS) is the latest software solution product released by Axiomtek in response to the trend of the Internet of Things (IoT). It is a lightweight device and data management software platform that comes with information visualization and data clouding features. From the terminal device to the gateway equipment in the middle stage, and then to the remote management platform, AMS assists users in managing and handling the tasks that they may encounter in various classes, such as protocol communication, data collection and processing, message transmission, and information presentation. AMS also puts the IoT / IIoT spirit into action by performing device and equipment management, allowing users to reduce human resources and lower technical thresholds during project development, so that they can fully focus on application integration and creation of value-added services.



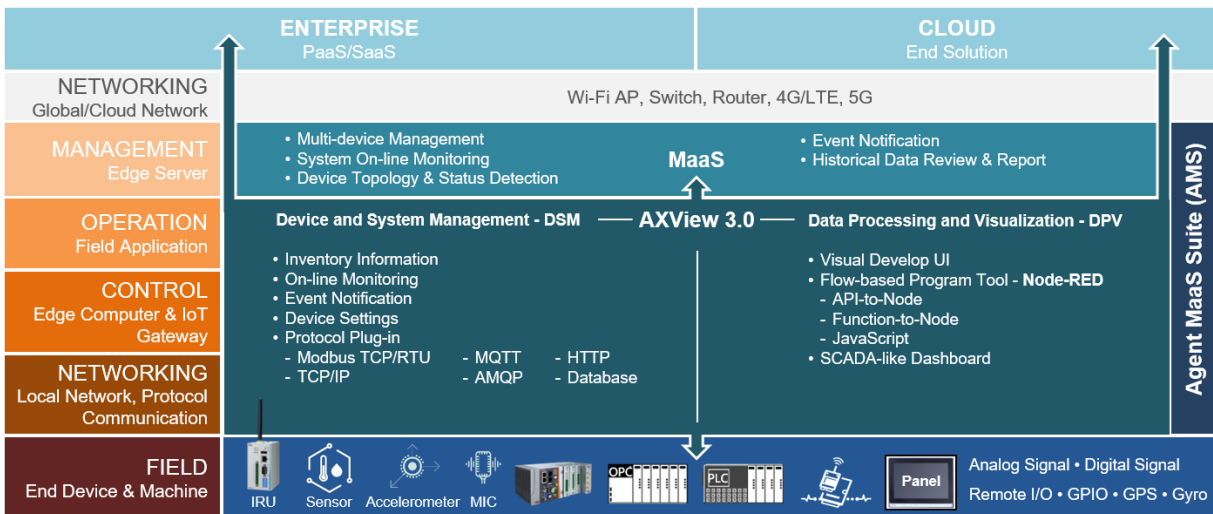


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## 1.2 Features

To exemplify the spirit of IoT/IIoT while retaining flexibility, AMS is divided into two packages according to their operational role requirements: System Management - AXView 3.0; and Remote Management - MaaS (Management as a Service).



Besides providing basic device management and data processing functions, AXView 3.0 also includes flexible features for design change and functional expansion, with the main function blocks encompassing both Device and System Management (DSM) and Data Processing and Visualization (DPV).



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### 1.3 Specifications

<b>COMMUNICATION</b>	Interface	RS-485, RJ-45, Wi-Fi, 3G/4G
	Protocol	Modbus RTU/TCP, MQTT, TCP/UDP, HTTP, Socket, WebSocket
<b>MONITORING</b>	System	Voltage, Temperature, Digital I/O, Fan speed, Status and USB insert/remove
	Connected device for Modbus device	
<b>DEVELOP TOOL</b>	Node-RED integrated	
<b>PROGRAMMING LANGUAGE</b>	JavaScript supported	
<b>SECURITY</b>	Watchdog Timer to ensure normal operation Operating per user ID authentication	
<b>SYSTEM REQUIRMENTS</b>	OS	Linux Ubuntu 16.04 or Yocto 2.5.1
	CPU	Intel® Atom® processor E3815 or above
	Storage	16GB or above
	Memory	4GB or above
<b>PLATFORMS</b>	Please refer to [1.4 Hardware Platform Support List]	



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## 1.4 Hardware Platform Support List

Fanless Embedded System	eBOX100-312, eBOX560-300, eBOX560-500, eBOX560-512, eBOX565-312, eBOX565-500, eBOX625-853, eBOX626-853, eBOX627-312, eBOX625-312, eBOX670-891
IoT Gateway	ICO100-839, ICO120-83D, ICO300-83B, ICO310, ICO320-83C
Transportation System	tBOX300-510, tBOX324-894, tBOX500-510 UST100-508, UST500-510
Fanless Touch Panel PC	GOT110-316
Digital Signage Player	DSP300
Industrial PC	IPC962-511, IPC962-512, IPC964-512, IPS960-511-PoE, IPS962-512-PoE
Industrial Motherboard	IMB520, IMB523
System Host Board	SHB150, SHB140
Card/Module	AX92320



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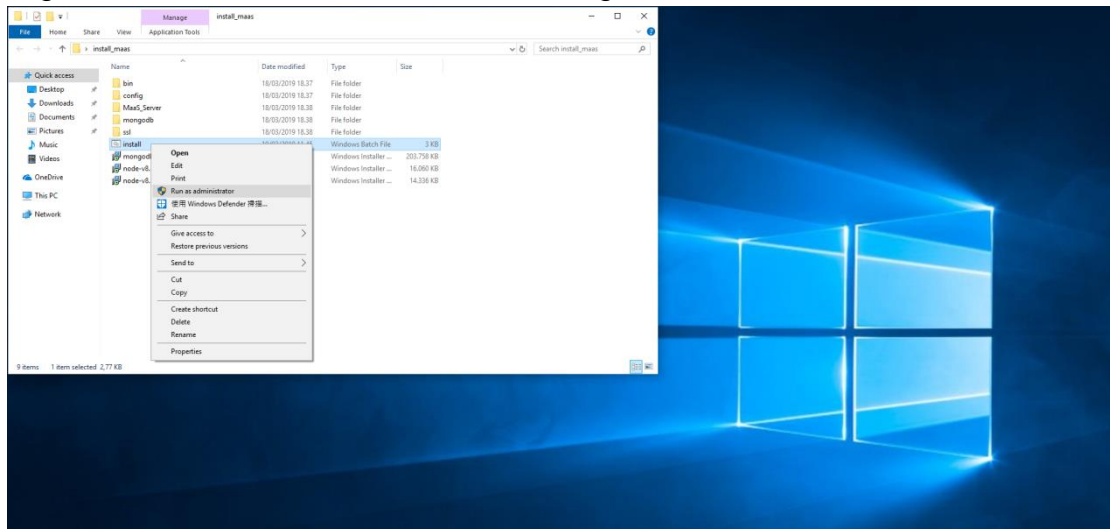
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## 2 Getting Started

### 2.1 Install MaaS

#### 2.1.1 Install MaaS in Windows 10 x64

- 1) Unzip the zip file and navigate to the directory.
- 2) Right-click on “install.bat” file and choosing “Run as administrator”.



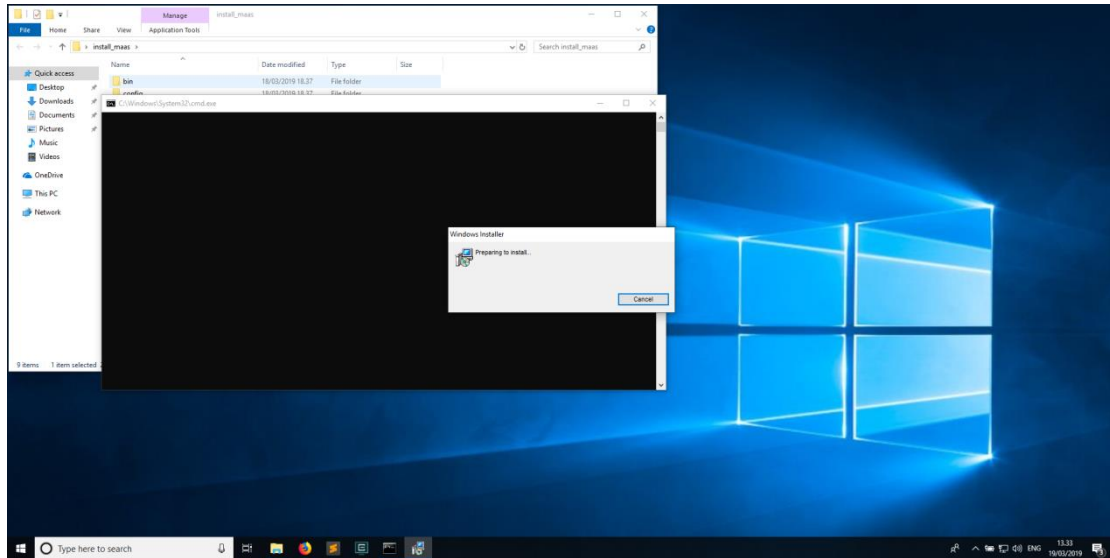
- 3) System will install needed components.



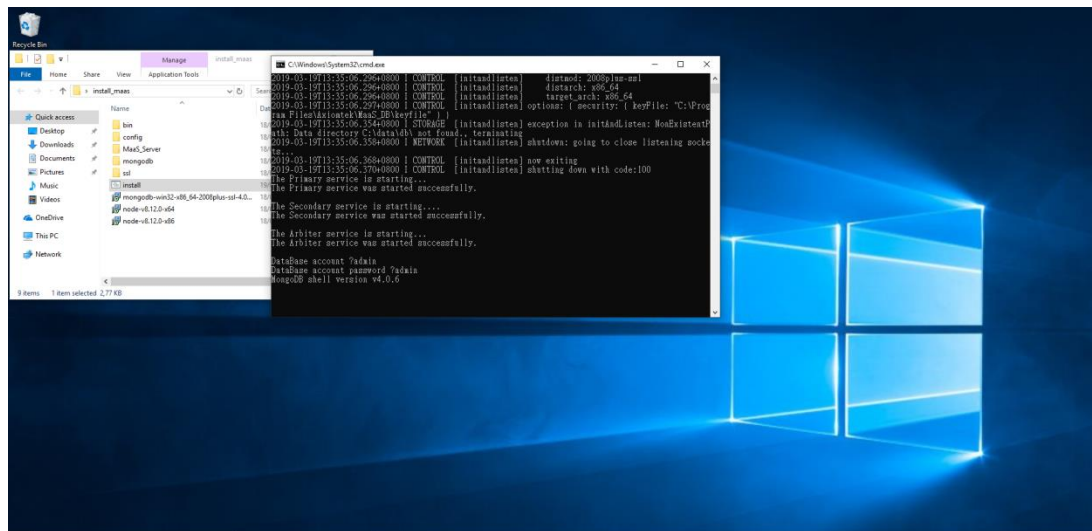


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- 4) Creating database, please key in the database id and password.



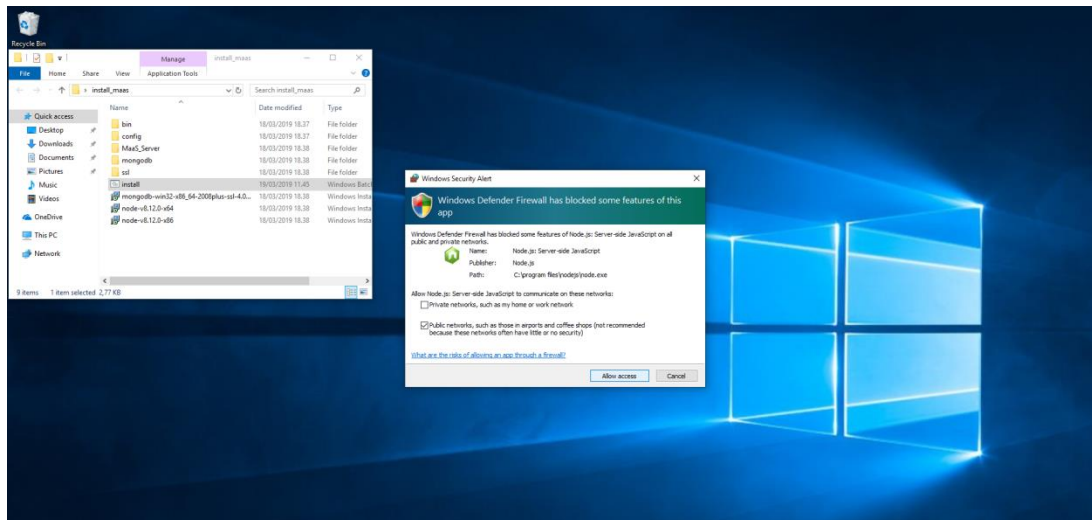
- 5) Waiting for a moment to complete the installation. The command line will closed when installed complete.



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- 6) When starting the MaaS server on Windows, a prompt to allow connections in Windows Firewall may appear. Click “Allow access” to confirm.



## 2.1.2 Install MaaS in Yocto 2.5.1

Please contact us.



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### 3 MaaS

There are three role administrator, manager and user in MaaS web service. Administrator is the role with highest level access to the website. Administrator can manages all Axiomtek devices which connected to MaaS service. Administrator also can manage the account. Manager can view and control the own Axiomtek devices. User only can view the specific devices which devices are setting by administrator. The permissions of the roles are as below.

<b>Items Roles</b>	<b>Account Management</b>	<b>Device Management</b>	<b>Data Visualization</b>
Administrator	V	V	V
Manager		V	V
User			V

#### 3.1 Login

Open your web browser recommended that you to use browser software Google Chrome, Firefox, and type in the following address to the URL bar:

`http://<MaaS_ip>`

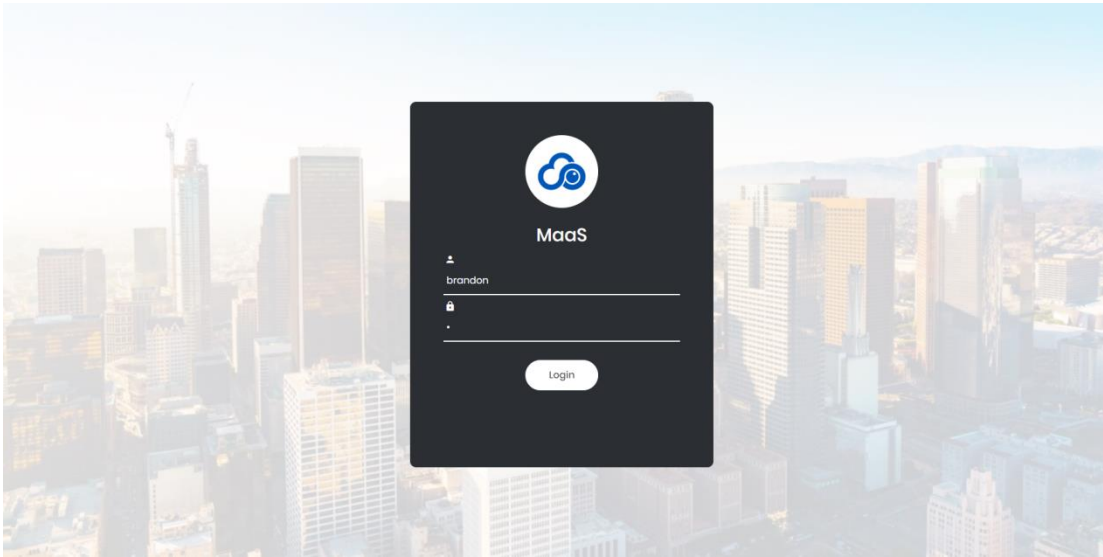
After the navigation, it'll show login web page. Please enter the id and password to login (Apply for an account by administrator of MaaS server).



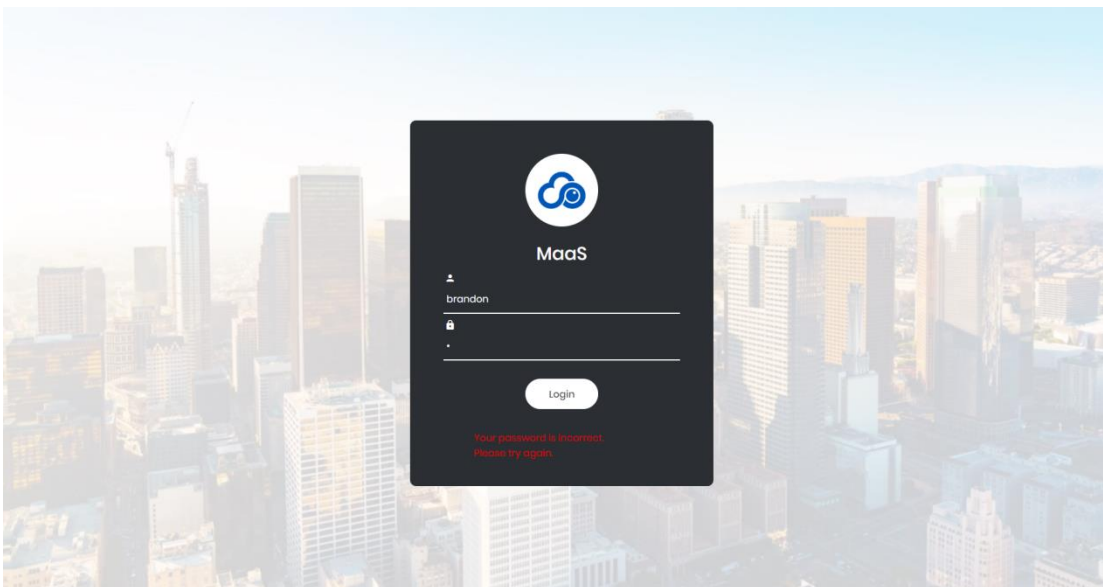
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If you enter the wrong id or password, it'll show error message as below.





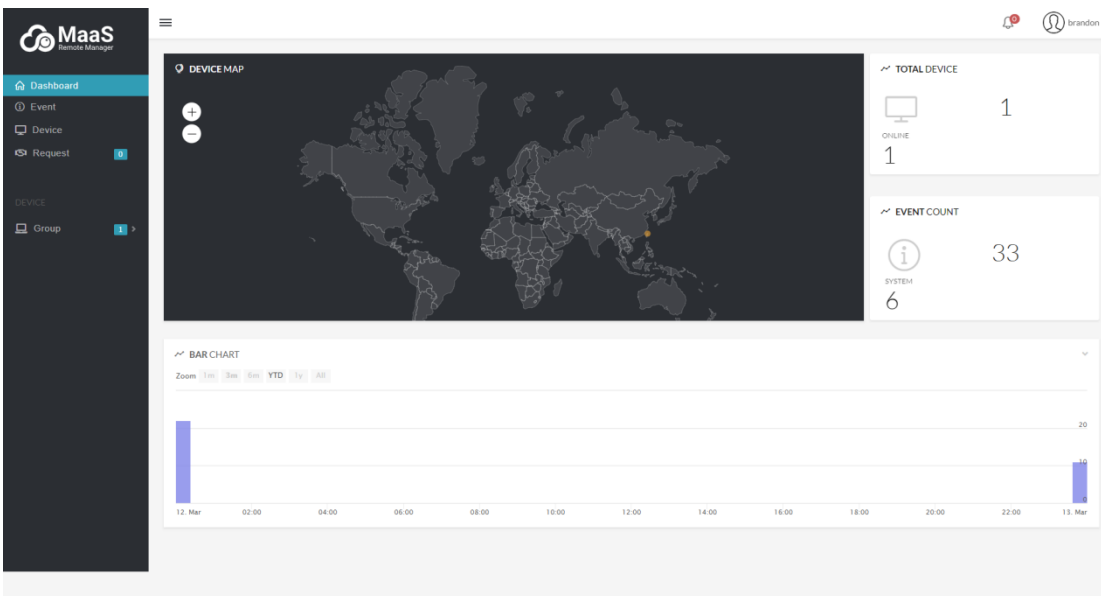
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## 3.2 System Information

### 3.2.1 Dashboard

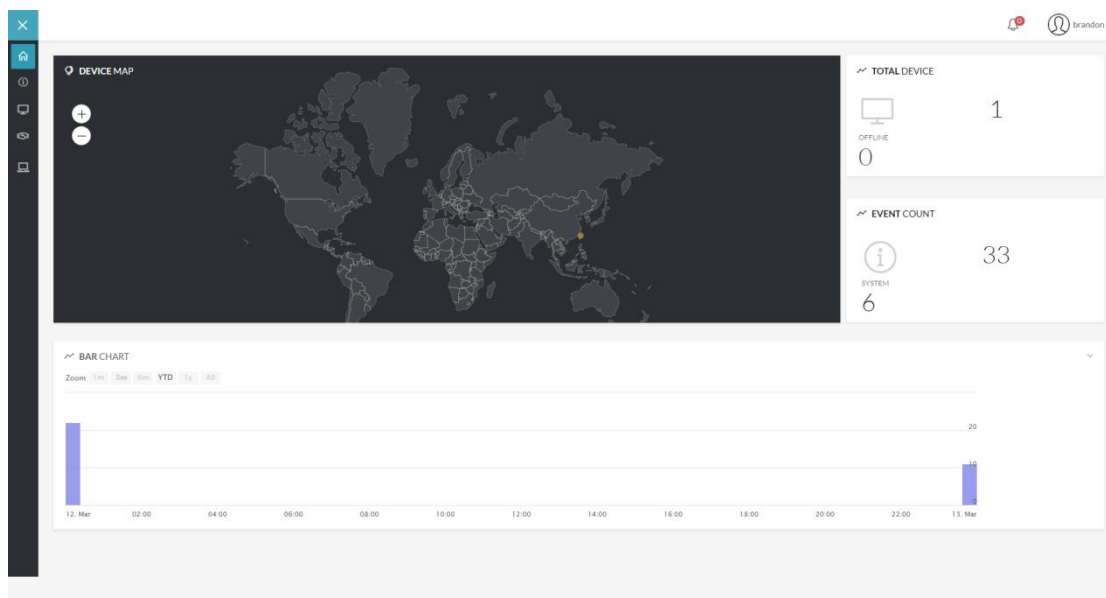
This is the home page of MaaS. The dashboard provides a one-stop summary in this account. From here you can see the gateways status like device's location, device count, event's count and event history. Only administrator and manager can see the "Request" item.





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User can use user icon to change password and log out.

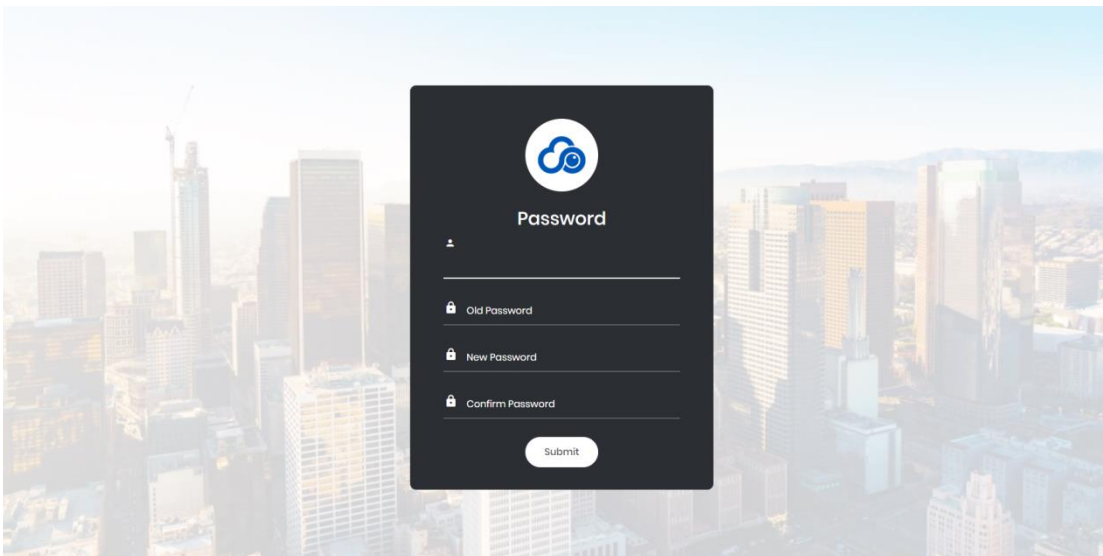
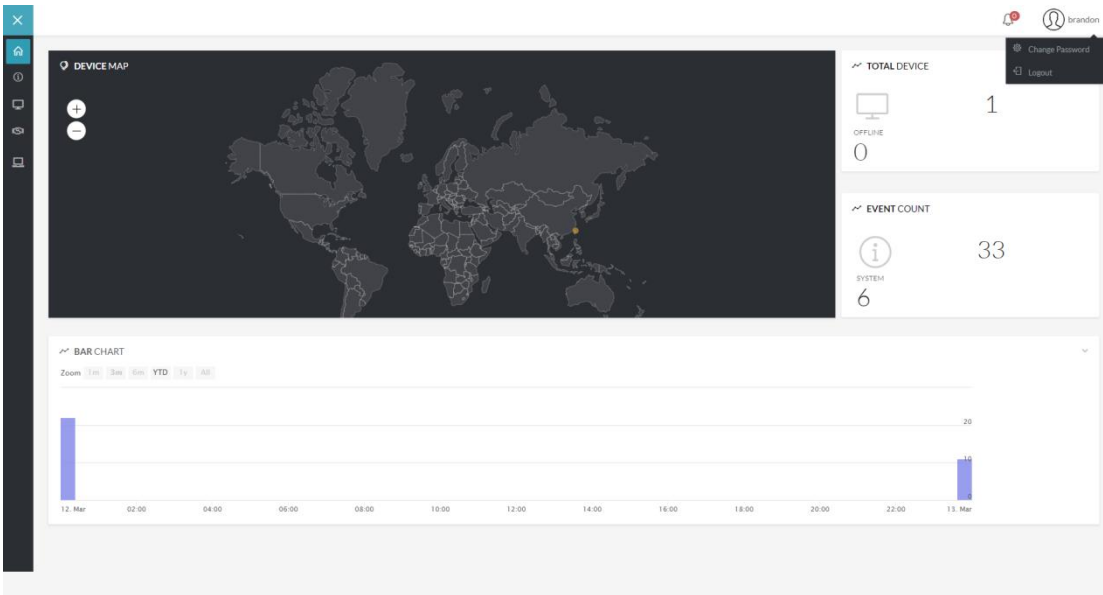
### 3.2.1.1 Change Password

- Click "Password" will navigate to password change page.  
Enter the Username, old password and new password to change password



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### 3.2.1.2 Account Settings

- Click "Account Settings" will navigate to account setting page. Only the administrator can create new account.



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The screenshot displays the 'USER' management page in the MaaS interface. A sidebar on the left contains navigation options: Dashboard, Event, Device, Request (with a notification badge), and a list of devices (aaron, brandon). The main content area features a '+ Add User' button and a table of existing users. A search bar is located above the table.

NO	NAME	MANAGER	PREMISSION	REGISTION TIME
1.	aaron	aaron	Write/Read	Thu Feb 14 2019 15:15:20 GMT+0800 (台北標準時間)
2.	yow	yow	Write/Read	Thu Feb 14 2019 15:09:43 GMT+0800 (台北標準時間)
3.	brandon	brandon	Write/Read	Tue Feb 19 2019 16:24:25 GMT+0800 (台北標準時間)
4.	aaron_read	aaron	Read	Mon Feb 25 2019 15:21:29 GMT+0800 (台北標準時間)

Showing 1 to 4 of 4 entries

Administrator can add new account by click “Add User” button. Fulfill the request to complete added new account.

This screenshot shows the 'CREATEUSER' dialog box overlaid on the user management page. The dialog contains fields for 'UserName', 'Password', and a 'Premission' dropdown menu. The 'Premission' dropdown is currently set to 'Write/Read'. A 'Save' button is located at the bottom of the dialog.





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## 3.2.2 Event

- List all events in this account.

The screenshot displays the MaaS Event log interface. The left sidebar shows navigation options: Dashboard, Event (selected), Device, Request, and a DEVICES section with Group. The main content area is titled 'EVENT' and shows a table of 10 entries. The table has columns for NO, DEVICE, MESSAGE, and DATE. The events include USB device removal, admin login success, and admin login failed.

NO	DEVICE	MESSAGE	DATE
1	ICO100:41586A3D97	USB device was removed	2019-03-12 13:31:55
2	ICO100:41586A3D97	admin login success from 10.1.71.3	2019-03-12 14:08:29
3	ICO100:41586A3D97	admin login success from 10.1.71.3	2019-03-12 14:08:48
4	ICO100:41586A3D97	admin login success from 10.1.71.3	2019-03-12 14:08:49
5	ICO100:41586A3D97	admin login failed from 10.1.71.3	2019-03-12 14:08:57
6	ICO100:41586A3D97	admin login success from 10.1.71.3	2019-03-12 14:09:01
7	ICO100:41586A3D97	admin login failed from 10.1.71.3	2019-03-12 14:09:23
8	ICO100:41586A3D97	admin login success from 10.1.71.3	2019-03-12 14:09:26
9	ICO100:41586A3D97	USB device was removed	2019-03-12 14:12:23
10	ICO100:41586A3D97	USB device was inserted	2019-03-12 14:14:24

Showing 1 to 10 of 33 entries



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## 3.2.3 Device

List all devices in this account. Only administrator and manager can see the “ACTION” item.

The screenshot shows the MaaS Device Manager interface. On the left is a dark sidebar with navigation options: Dashboard, Event, Device (highlighted), Request, and Group. The main content area is titled 'DEVICE TABLES' and contains a table with the following data:

NAME	IP	STATE	ADDRESS	ACTION
IC0100.41586A3D97	10.1.70.245	online	3F, No. 55, Nanxing Rd., Xizhi District, New Taipei City 221, Taiwan	

When administrator or manager rejects the device, the device’s local web page will get a reject notification.



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The screenshot displays the AXView System Management interface. On the left is a navigation menu with options: System Information, Overview, Event Log, General, I/O, Setting, Monitoring, and Data Processing. The main content area is divided into several sections:

- Time:** Shows the current time as 04:59:07 PM on 04 Day 22 Hour 56 Minute.
- Information:** Lists system details: CPU (Intel(R) Atom(TM) Processor E3930 @ 1.30GHz), Memory (3.69 GB), Storage (56 GB), and Device Name (localhost).
- System Usage:** Displays resource usage: CPU at 0%, Memory at 78%, and Storage at 51%.
- Event AXV Notification (Last 30):** A timeline of events including admin login successes and SIGINT signals.
- Hardware Event:** A row of four monitoring cards for Temperature (SYSTEM 36), Voltage (+3.3V 3.3), Fan (None), and Lan (emp1a0 lip).

AXView 3.0 v1.0 © 2018 Axiomtek Co., Ltd.



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The screenshot displays the AXView System Management interface. On the left is a blue sidebar menu with the following items: System Information (expanded), Overview, Event Log (selected), General, I/O, Setting, Monitoring, and Data Processing. The main content area is titled "Log list" and contains a table with the following data:

No.	Date	Message
1	2019-03-13 16:58:41	Reject device from MaaS
2	2019-03-13 15:28:50	Get a signal - SIGINT
3	2019-03-13 15:26:37	Get a signal - SIGINT
4	2019-03-13 15:26:06	Get a signal - SIGINT
5	2019-03-13 09:54:02	Get a signal - SIGINT

At the top right of the log list area, there is a "Read All" button. The footer of the interface shows "AXView 3.0 v1.0" on the left and "© 2018 Axiomtek Co., Ltd." on the right.



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## 3.2.4 Request

List all request in this account. Administrator and manager can accept and reject device's request to add it into manager account. Only administrator and manager can see the "Request" web page.

The screenshot displays the MaaS Remote Manager interface. On the left is a dark sidebar with navigation options: Dashboard, Event, Device, and Request (highlighted in blue with a '1' notification badge). Below the sidebar is a 'DEVICE' section. The main content area shows a 'REQUEST TABLES' section with a table containing one request entry. The table has columns for NAME, IP, MANAGER, REQUEST TIME, and ACTION. The entry shows a device name, IP address, manager name 'brandon', and a request time from March 13, 2019. The action column contains a green checkmark icon and a red 'X' icon.

NAME	IP	MANAGER	REQUEST TIME	ACTION
ICO100.41586A3D97	10.170.245	brandon	Wed Mar 13 2019 14:21:25 GMT+0800 (台北標準時間)	<input type="checkbox"/> <input type="checkbox"/>

When administrator or manager rejects the request, the device's local web page will get a reject notification.



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The screenshot displays the MaaS Remote Manager web interface. A dark sidebar on the left contains navigation options: Dashboard, Event, Device, and Request (selected). The main content area shows a 'REQUEST TABLES' table with the following data:

NAME	IP	MANAGER	REQUEST TIME	ACTION
ICO100.41586A3D97	10.1.70.245	brandon	Wed Mar 13 2019 14:21:25 GMT+0800 (台北標準時間)	<input checked="" type="checkbox"/> <input type="checkbox"/>

A modal dialog box is open, displaying the IP address '10.1.70.149' and the text 'Are you sure to reject this device'. It includes 'Yes' and 'Cancel' buttons.



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The screenshot displays the AXView System Management interface. On the left is a blue navigation sidebar with options: System Information, Overview, Event Log, General, I/O, Setting, Monitoring, and Data Processing. The main content area is divided into several sections:

- Time:** Shows 'Now' as 04:59:07 PM and 'Work' as 04 Day 22 Hour 56 Minute.
- Information:** Lists system specs: CPU (Intel(R) Atom(TM) Processor E3930 @ 1.30GHz), Memory (3.69 GB), Storage (56 GB), and Device Name (localhost).
- System Usage:** Displays three gauges: CPU at 0%, Memory at 78%, and Storage at 51%.
- Event AXV Notification (Last 30):** A timeline of events including 'admin login success from local' and 'Get a signal - SIGINT'.
- Hardware Event:** A row of four status cards for Temperature (SYSTEM 36), Voltage (+3.3V 3.3), Fan (None), and Lan (emp1a0 lip).

At the bottom left, it says 'AXView 3.0 v1.0' and at the bottom right, '© 2018 Axiomtek Co., Ltd.'.



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The screenshot shows the AXView System Management interface. On the left is a blue sidebar menu with options: System Information, Overview, Event Log, General, I/O, Setting, Monitoring, and Data Processing. The main content area is titled 'Log list' and contains a table with the following data:

No.	Date	Message
1	2019-03-13 16:58:41	Reject device from MaaS
2	2019-03-13 15:28:50	Get a signal - SIGINT
3	2019-03-13 15:26:37	Get a signal - SIGINT
4	2019-03-13 15:26:06	Get a signal - SIGINT
5	2019-03-13 09:54:02	Get a signal - SIGINT

At the bottom of the interface, it says 'AXView 3.0 v1.0' on the left and '© 2018 Axiomtek Co., Ltd.' on the right.





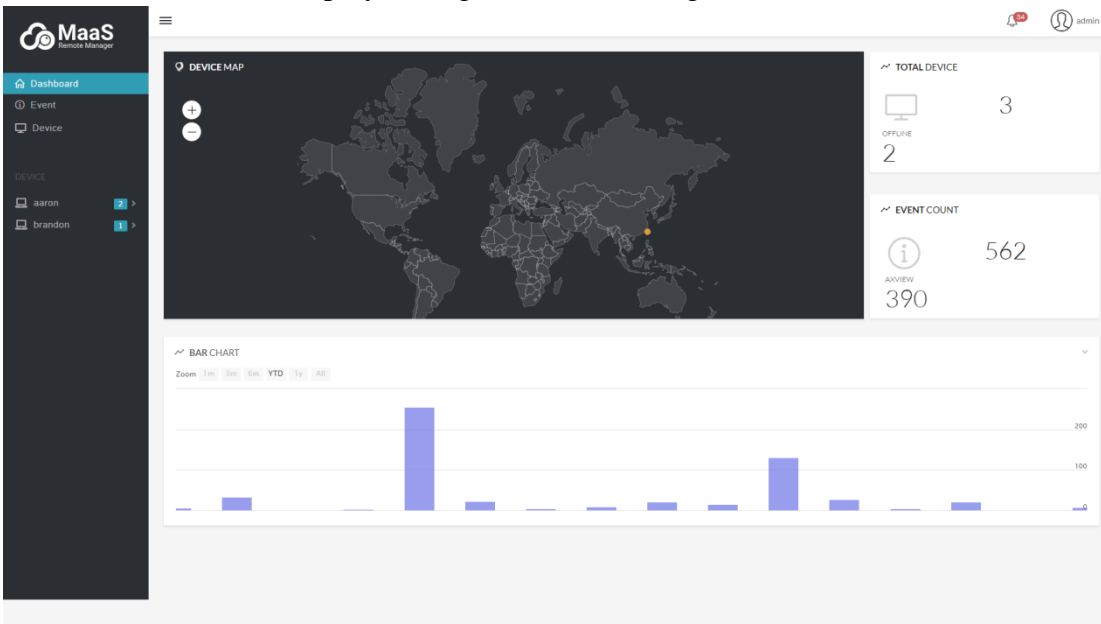
# Agent MaaS Suite

## MaaS

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### 3.3 Device

The device will list Group by manager name when log in account is administrator.



#### 3.3.1 Overview

The device page displays more detailed information about the following items:

- Device status: If the device is online, the icon will be green. If the device is offline, the icon will be red.
- Device information: Display the owner information, device status, name and address.
- Topology: Display the connected sensor node.
- Work Time: Display the work time in this month. It'll show when device is online.
- Event Chart: Display the event by three types (Hardware event, system log and user login). It'll show when device is online.



# Agent MaaS Suite MaaS

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The screenshot displays the MaaS Agent Management Dashboard for a specific device. The interface includes a sidebar with navigation options (Dashboard, Event, Device, Request) and a main content area with three sections: Overview, Visualization, and Device Information.

**Overview:** Shows the device ID (IC0300 41586A3D97) and location (No. 55, Nanjing Rd., Xizhi District, New Taipei City 221, Taiwan).

**Visualization:** A "Device Network" diagram showing the device connected to a "New Router" and the Internet.

**Device Information:**

- Manager: brandon
- Manager Phone: +886-2-86462111
- Manager Email: AXV@axiomtek.com.tw
- Version: v1.0

**Work Time:** A bar chart showing work time across weeks. The current work time is 05 Day 19 Hour 23 Minute.

**Event Chart:** A bar chart showing event counts for "Today".

**Event Log Table:**

NO.	DATE	MESSAGE
0	2019-03-14 10:08:03	admin login success from 10.1.71.3
1	2019-03-14 10:11:46	admin login failed from 10.1.71.3
2	2019-03-14 10:12:31	admin login success from 10.1.71.3
3	2019-03-14 11:44:41	admin login success from local
4	2019-03-14 13:11:25	admin login success from local

This screenshot shows the same MaaS Agent Management Dashboard but with a different work time. The device information and event logs remain the same.

**Work Time:** The current work time is 05 Day 19 Hour 27 Minute.

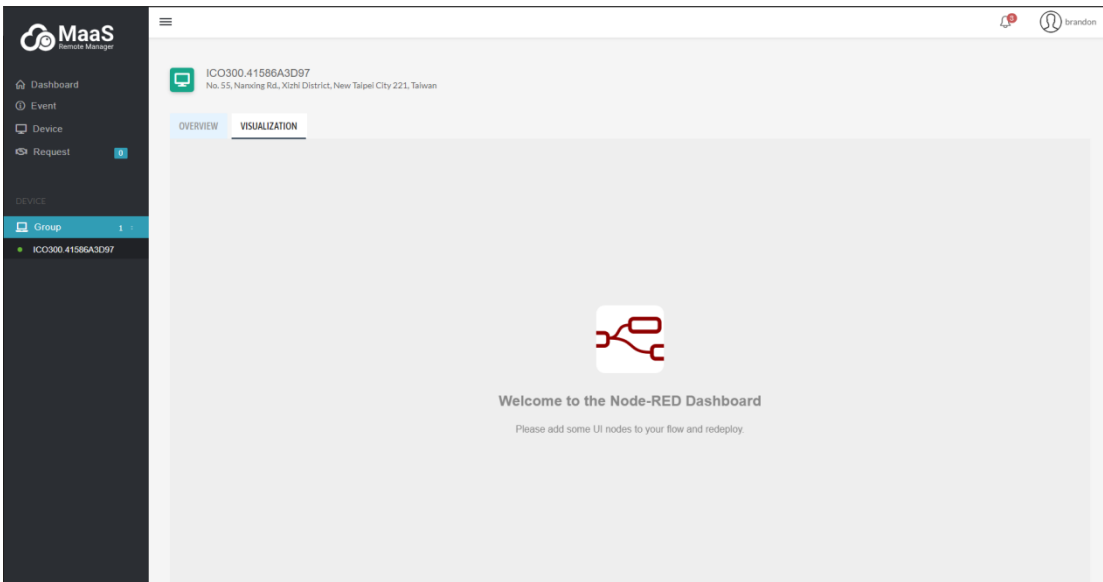


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## 3.3.2 Visualization

Display the device visualization page.





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## Appendix A

### Troubleshooting

#### 400 ERROR – PAGE NOT FOUND

The request could not be understood by the server due to malformed syntax. The client should not repeat the request without modifications.

The screenshot displays the AXView System Management interface. The left sidebar contains navigation options: System Information, Overview, Event Log, General, I/O, Setting, Monitoring, and Data Processing. The main content area is divided into several sections:

- Time:** Shows the current time as 02:20:31 PM on 03 day 20 Hour 18 Minute.
- Information:** Lists system details: CPU (Intel(R) Atom(TM) Processor E3930 @ 1.30GHz), Memory (3.69 GB), Storage (56 GB), and Device Name (localhost).
- System Usage:** Displays resource usage: CPU at 3%, Memory at 54%, and Storage at 51%.
- Event AXV Notification (Last 30):** Shows a warning icon and the text "Internal Server Error".
- Hardware Event:** Lists four hardware metrics:
  - Temperature:** CPU\_TEMP\_34 (checked)
  - Voltage:** +5VSB 4.99 (checked)
  - Fan:** None
  - Lan:** ens160 Up (checked)

The footer of the dashboard includes "AXView 3.0 v1.0" on the left and "© 2018 Axiomtek Co., Ltd." on the right.



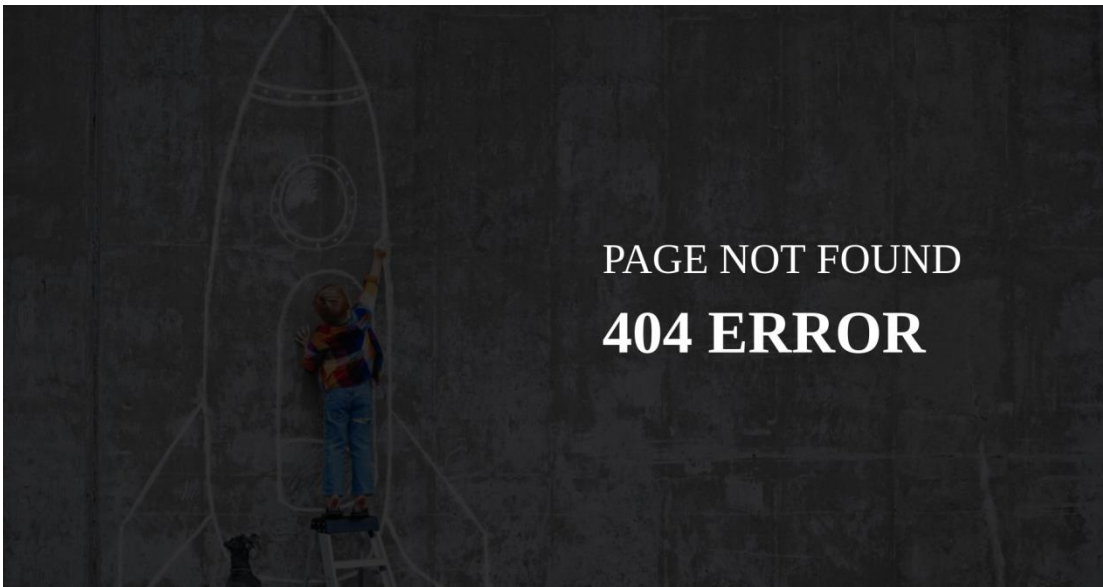
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### 404 ERROR – PAGE NOT FOUND

The server has not found anything matching the request-URI. The requested resource could not be found but may be available in the future. Subsequent requests by the client are permissible.





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### **500 ERROR – INTERNAL SERVER ERROR**

The server encountered an unexpected condition which prevented it from fulfilling the request.

