How to do distribution deployment for CMS

Introduction

In large-scale CMS projects, a distributed deployment architecture is often adopted to enhance performance, scalability, and reliability. By deploying services across multiple servers, the system can efficiently handle high traffic loads, AI processing, and real-time data streams.

Key Benefits of Distributed Deployment

1. Load Balancing for Video Streaming (MDU - Media Distribution Unit)
   - Challenge: High concurrent video streams may overload a single server, causing latency or service interruptions.
   - Solution: Deploy multiple MDUs to distribute video processing tasks. Bandwidth usage is balanced across servers. It also improves streaming stability and reduces single-point
2. AI Processing Optimization (IAU - Intelligent Analysis Unit)
   - Challenge: High volumes of AI-based tasks (e.g., person/vehicle detection) require significant CPU/GPU resources.
   - Solution: Deploy multiple IAUs to share computational workloads. It enables parallel processing for real-time analytics and prevents server crashes during traffic spikes.

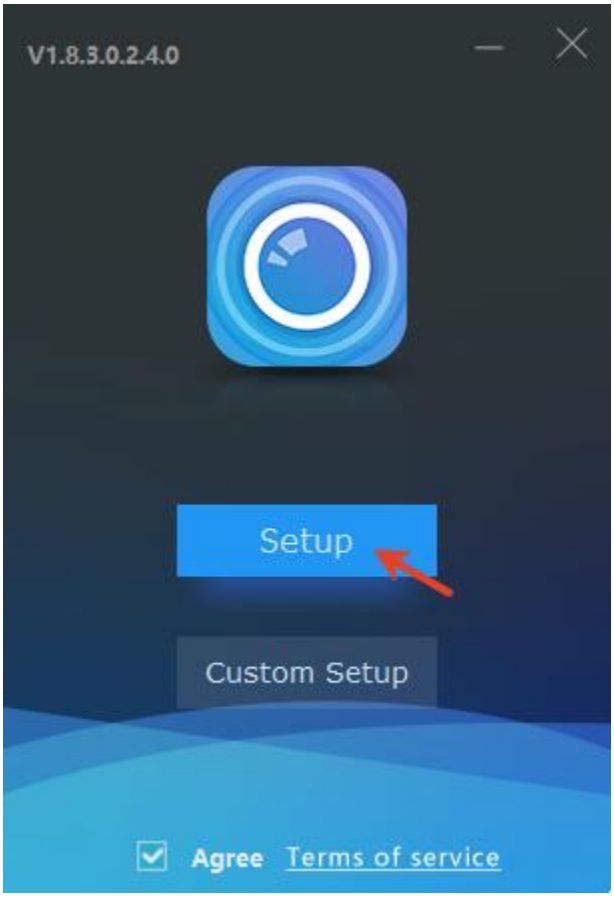
Server	Deployment	Use Case
Master	Core CMS + Database + MDU + IA	Primary operation
Extended	Replica (MDU + IAU)	Bandwidth & computing workloads balance
Extended	Replica (MDU	Bandwidth balance
Extended	Replica (IAU)	Computing workloads balance

How to do it

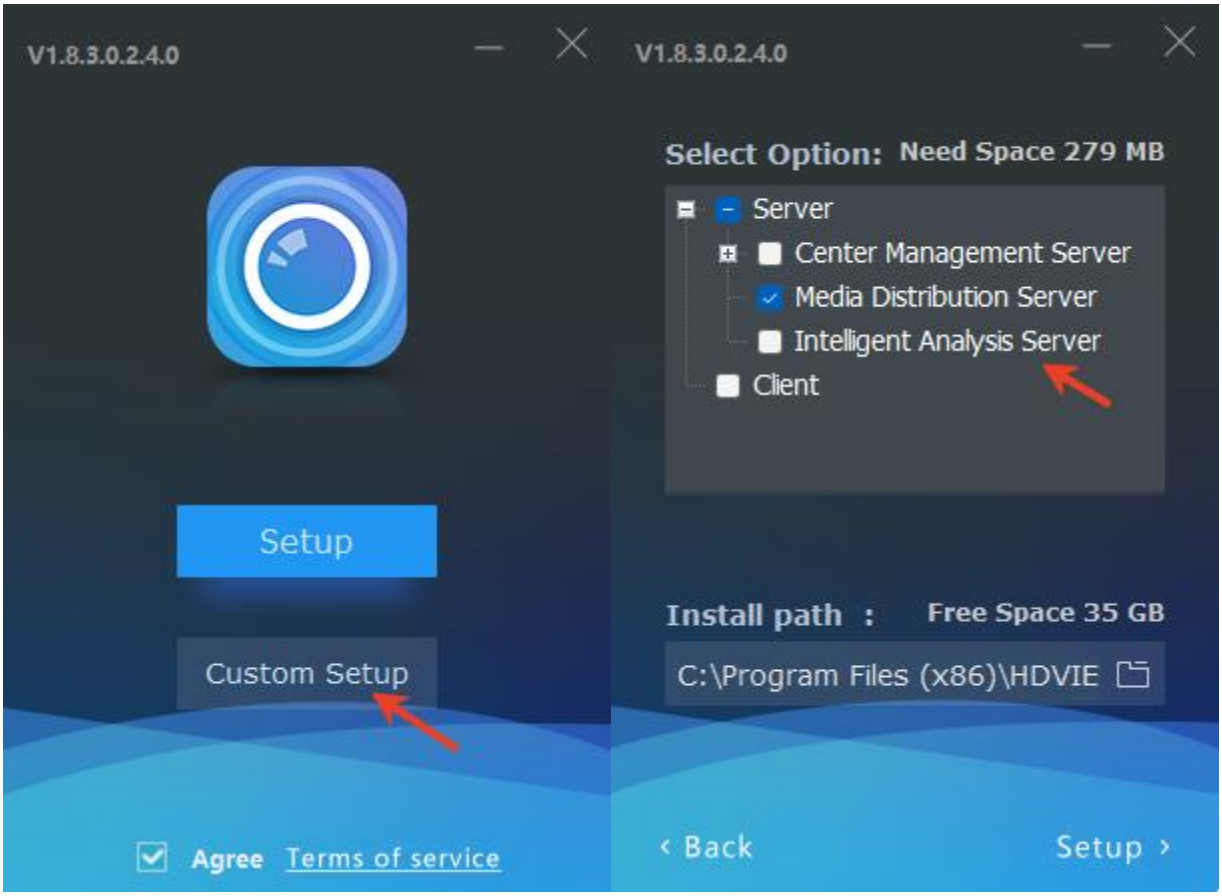
Here's a structured technical documentation section for your CMS deployment architecture (Master + Extended Server with optional modular components):

- The Master server generally implements full installation, including CMU, Database, IAU and MDU.
- For extended server, you can deploy full services (like Master) or only install required components (e.g., MDU for video or IAU for AI).

Full Installation



Installation with the selected units only

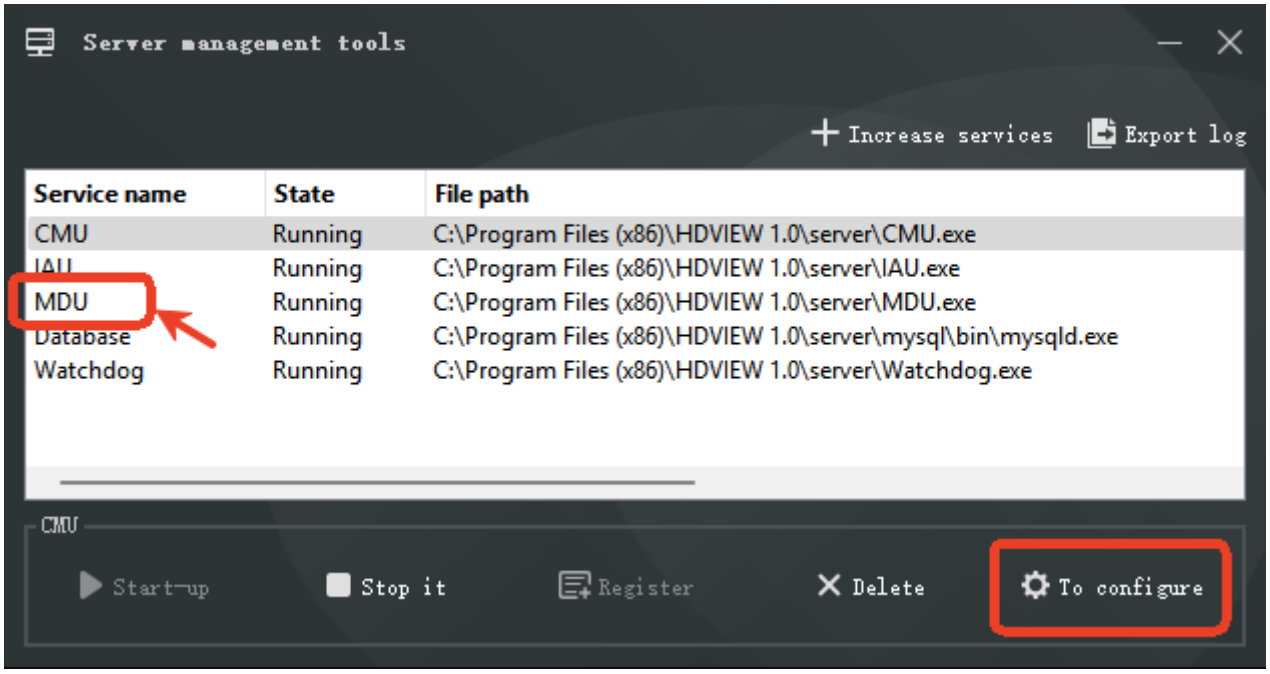


- On the extended server, there is a management tool next to the computer's toolbar (lower right corner of the desktop) after installation. Below screenshot shows the blue icon.

Management Tool

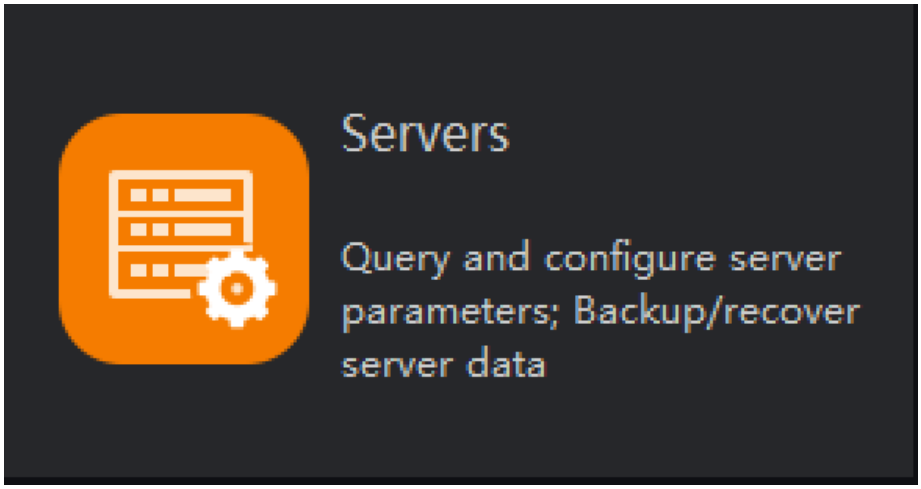
- Click on MDU (media distribution unit) and then “To configure” button.

Management Tool



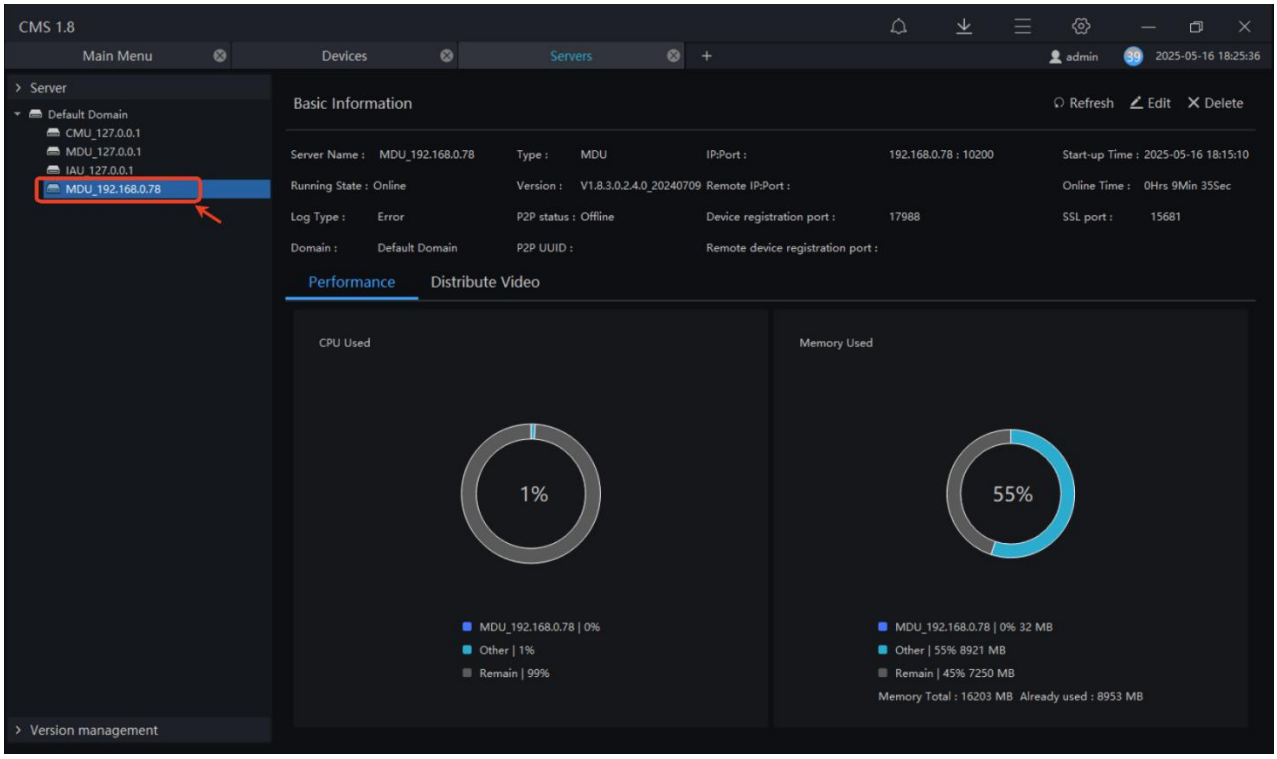
- Input the Master server's IP and port. This can be a LAN IP for same local network deployment, or a WAN IP for cross-network access (requires firewall configuration). The port number is 10086 by default. You will need to forward port 10086 for master server if it's not located in the same local network.
- Login the CMS on master server, go to Server card.

Servers Card



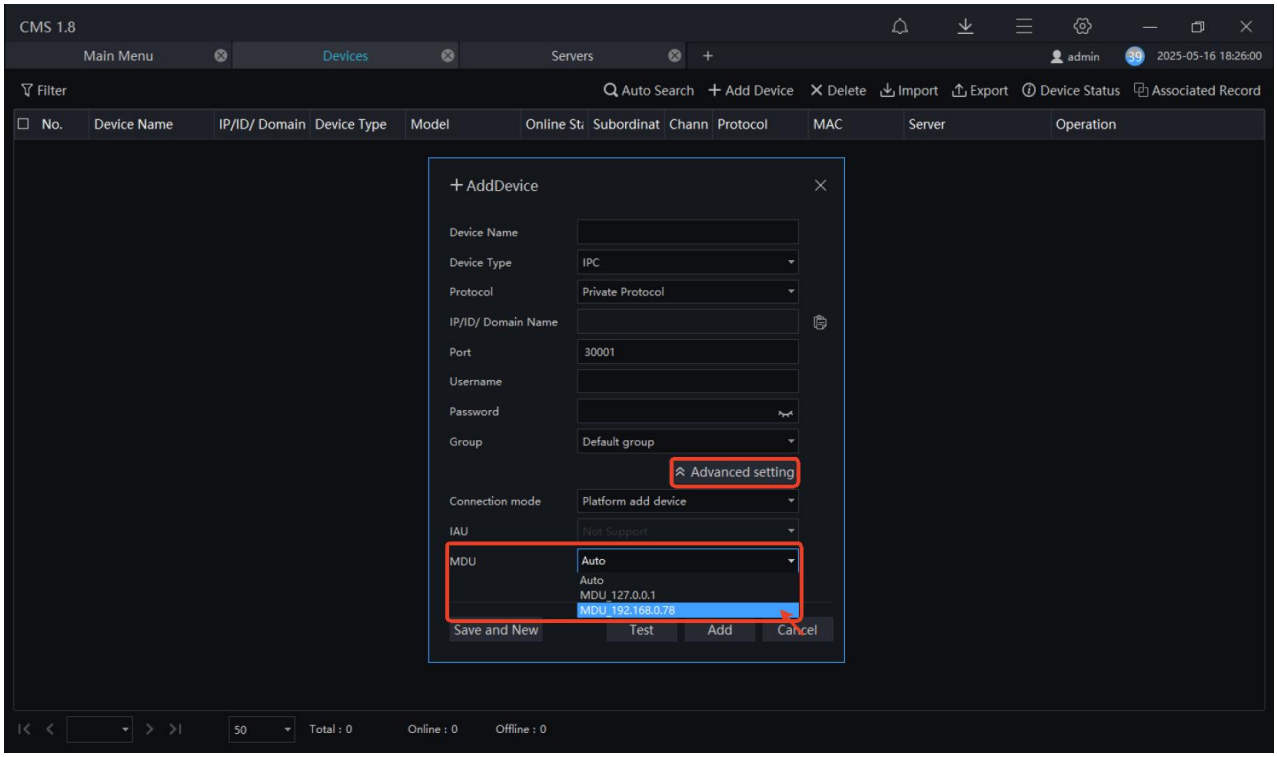
- You will find there is one more unit, MDU, which is just added.

Servers



- When adding devices, you can manually assign them to a specific MDU or select "Auto" to enable the system's automatic load balancing.

Adding Devices



- The deployment for IAU is the same.