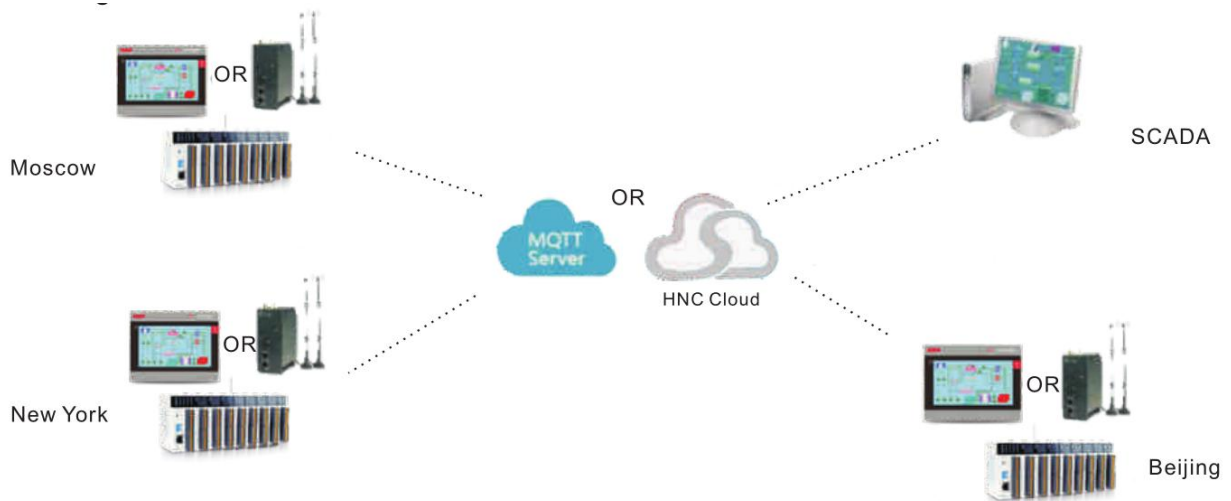


1. Network Diagram

This guide aims to show how HNC cloud devices connect to MQTT broker through the Internet for purpose of centralized monitoring and control of devices in different areas.



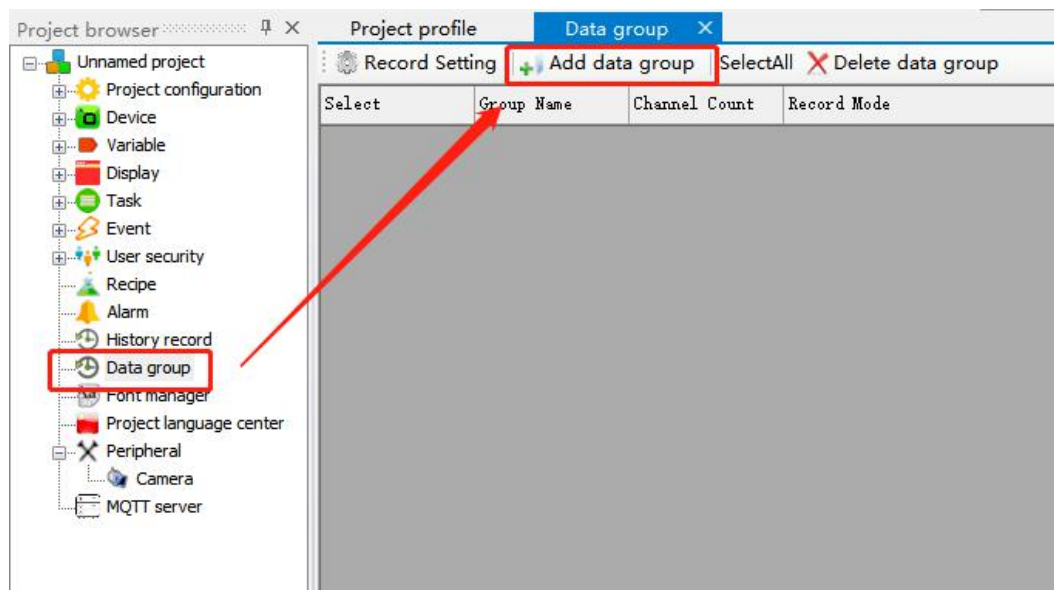
2. Create HMI/H-BOX project

2.1 Create a new project

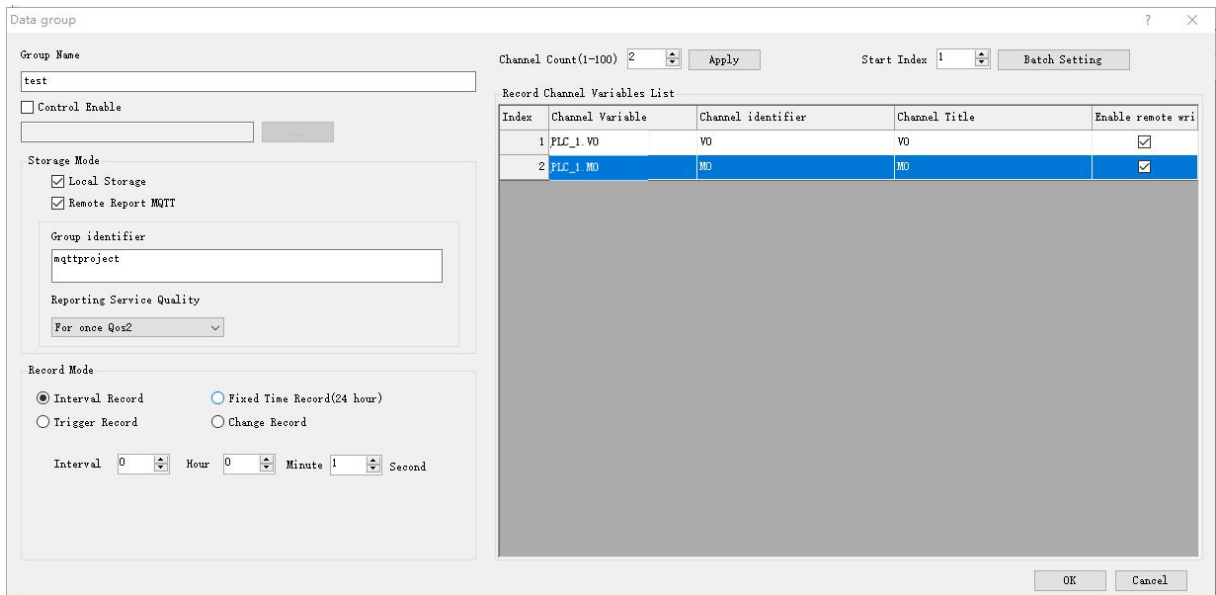
Open HTCloud Designer, create a new project, add a new device and variables.

2.2 Add a data group

Find data group in project browser on the left side and add a new data group.

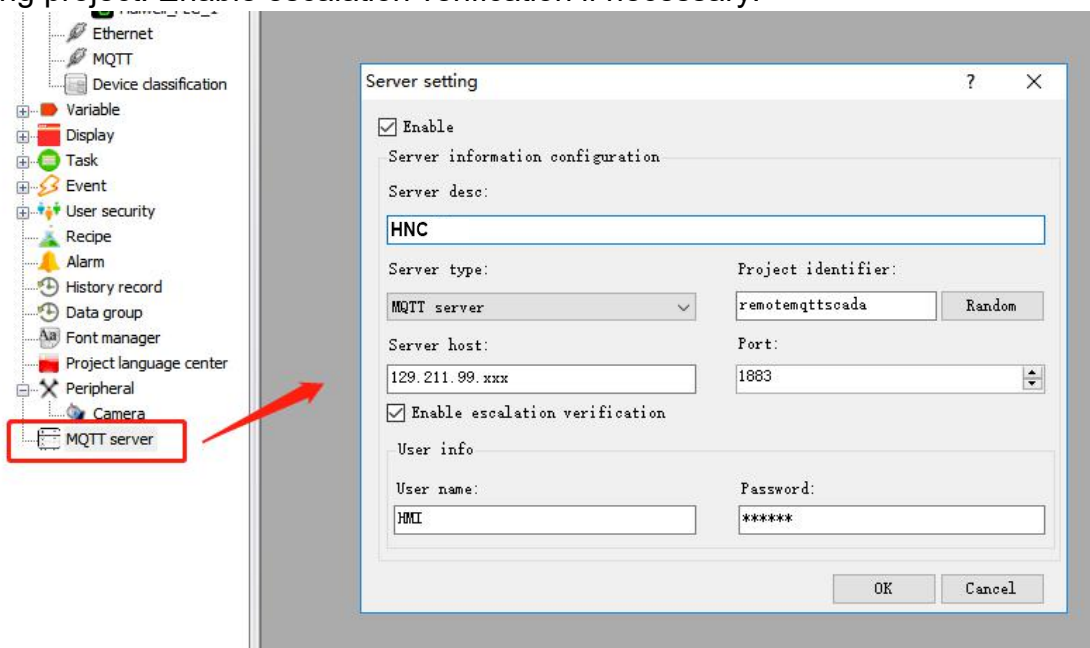


Apply channels in the pop-up window. Tick on "Remote Report MQTT" in storage mode. In this case, V0 and M0 will be recorded and uploaded. Hence, the channels applied will be V0 and M10. If tick on "Enable remote write", these variables can be written remotely. Notice the group identifier and channel identifiers which will be used in the following remote MQTT project.



2.3 MQTT server

Open MQTT server in project browser and tick on "Enable". Enter the IP address of MQTT broker. The default network port of EMQ broker is 1883. Notice the project identifier and it will be used in the following project. Enable escalation verification if necessary.



2.4 Project downloading

Edit the displays and download this project to HMI.

2.5 Configuration of HMI

Enter the system setting of HMI. Choose setting and edit the terminal name and terminal code.

Settings

Security

Others

Terminal Name: XXXXXX Terminal code: XXXXX Beep: Screen Saver: 10 min

Screen light: - 60 +

Auto Time: Time: 2019-07-08 11:07:03

The terminal name and terminal code can also be given by system variables, which are \$TerminalName and \$TerminalCode. Add graphics in display and bind these two variables.

Project profile		Data group	Variable manager <input type="button" value="X"/>			
Classify: <input type="button" value="System variable"/>		Filter: <input type="text"/>		<input type="button" value="Q"/>		
	Variable group	Variable name	Address	Bit address	Data type	The mode of reading and writing
1	SYSTEM	\$ProjectName			Character string	Read only
2	SYSTEM	\$ProjectFullName			Character string	Read only
3	SYSTEM	\$ProjectMemo			Character string	Read only
4	SYSTEM	\$ProjectAuthor			Character string	Read only
5	SYSTEM	\$ProjectCopyright			Character string	Read only
6	SYSTEM	\$ProjectCompany			Character string	Read only
7	SYSTEM	\$Year			Integer	Read only
8	SYSTEM	\$Month			Integer	Read only
9	SYSTEM	\$Day			Integer	Read only
10	SYSTEM	\$Hour			Integer	Read only
11	SYSTEM	\$Minute			Integer	Read only
12	SYSTEM	\$Second			Integer	Read only
13	SYSTEM	\$Millisecond			Integer	Read only
14	SYSTEM	\$Date			Character string	Read only
15	SYSTEM	\$Time			Character string	Read only
16	SYSTEM	\$RunTime			Character string	Read only
17	SYSTEM	\$RunSecond			Long integer	Read only
18	SYSTEM	\$StartDateTime			Character string	Read only
19	SYSTEM	\$UserName			Character string	Read and write
20	SYSTEM	\$UserGroup			Character string	Read and write
21	SYSTEM	\$ProjectLanguageId			Integer	Read and write
22	SYSTEM	\$ShowWindowId			Integer	Read and write
23	SYSTEM	\$Week			Integer	Read only
24	SYSTEM	\$TerminalName			Character string	Read and write
25	SYSTEM	\$TerminalFn			Character string	Read only
26	SYSTEM	\$TerminalCode			Character string	Read and write

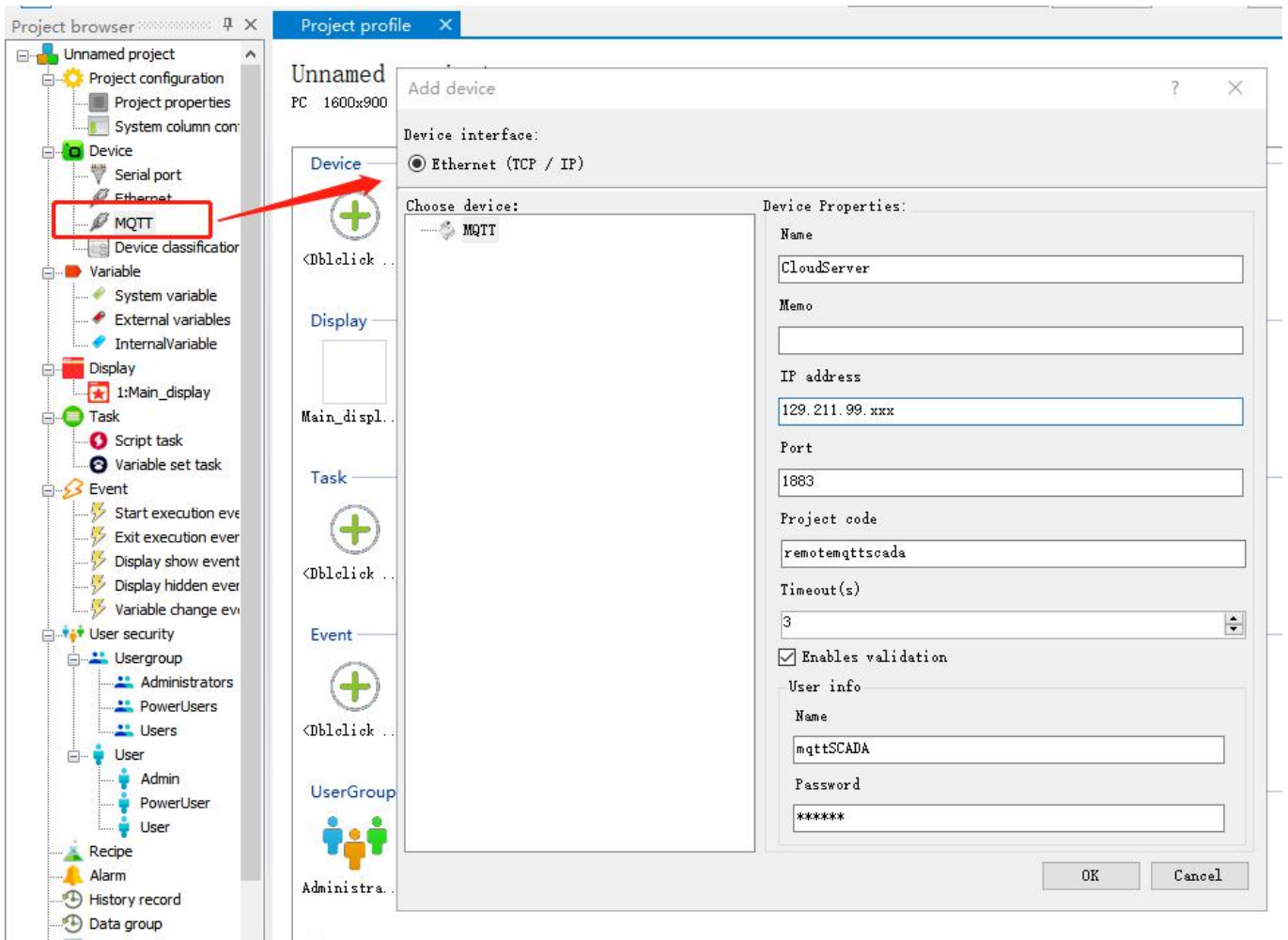
3. Create a remote MQTT project

3.1 Create a new project

Open HCloud Designer

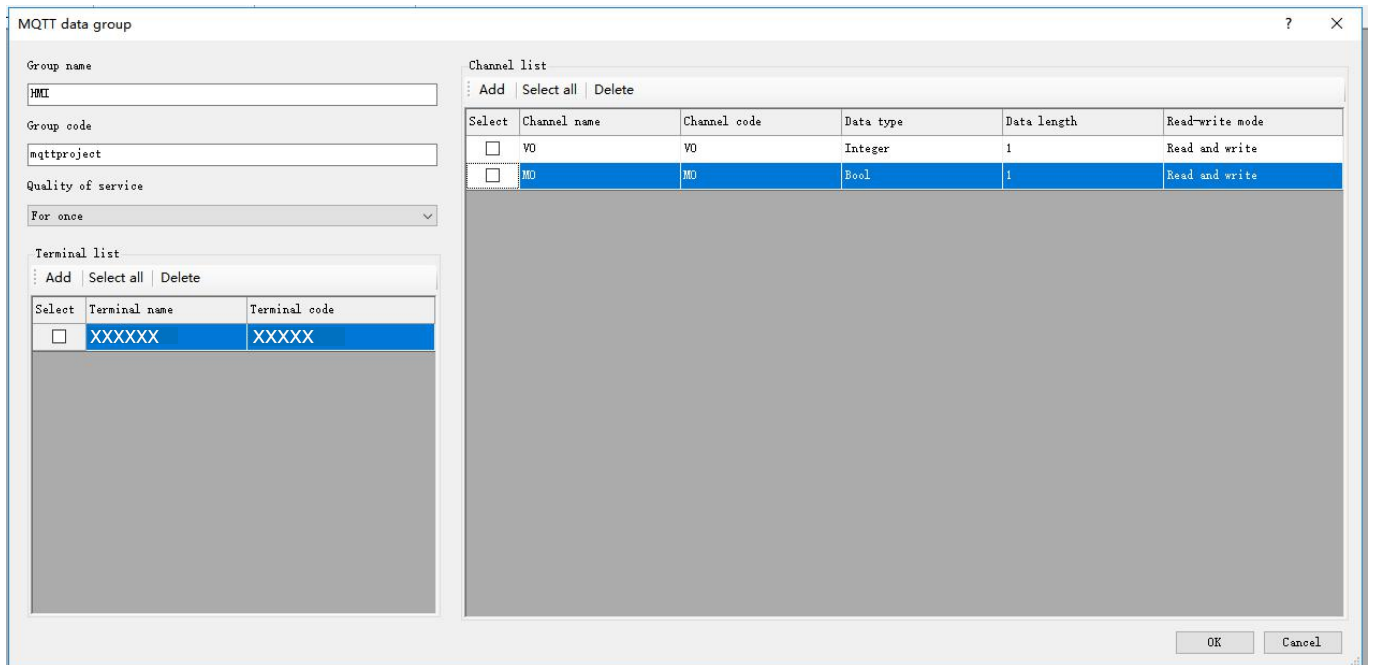
3.2 Add a MQTT device

Find MQTT under device in project browser and add a MQTT device. Enter the IP address of MQTT broker which should be the same server as used in the previous project. The default network port of EMQ broker is 1883. The project code should be the same as the previous project identifier. Enable escalation verification if necessary.



3.3 Add variables

Add the group identifier of the data group on HMI/H-BOX. Enter the terminal name and terminal code of your HMI and apply the corresponding channel identifier.



3.4 Project running

Edit the displays. Download or run this project. The data from HMI can be read and written in this remote MQTT project.

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