Advantech AE Technical Share Document

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Category	■FAQ □SOP	Related OS	N/A	
Abstract	How to publish and subs	How to publish and subscribe topic to Amazon MQ in AWS by MQTT protoco		
Keyword	WISE, MQTT, AWS, Amazon, Amazon MQ, Apache ActiveMQ			
Related	WISE-4000/LAN, WISE	E-4000, WISE-42	20, WISE-4210-AP, WISE-4471,	
Product	WISE-4671			

Brief Description

This document shows that how to use WISE-4000 and WISE-4220 series publish and subscribe topic to Amazon MQ service of AWS in MQTT protocol.

Users will establish a security group in virtual private cloud (VPC) and then, in Amazon MQ service, create an Apache Active MQ broker.

Finally, WISE-4000 and WISE-4220 series can publish and subscribe topic to Amazon MQ like Figure 1.

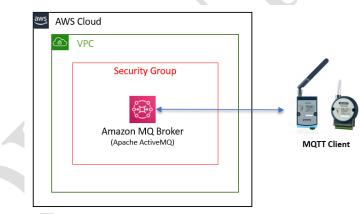


Figure 1. Architecture of WISE-4000/4220 communicating with Amazon MQ % Please aware that AWS will charge reginal fee since this solution needs to establish an Amazon MQ service.

Test Environment:

- ⇒ WISE-4220: A2.14 B00
- ⇒ Amazon MQ: ActiveMQ 5.16.4

Brief Solution

About AWS's VPC information, please refer to the user guide below.

About AWS's Amazon MQ information, please refer to the developer guide below.

The step 1 to step 6 refer to below Developer Guide.

activemg.html#create-activemg-broker

<u>Step1</u>: Search "Amazon MQ" \rightarrow Click "Amazon MQ". Just like Figure 2.

aws 🔰 🏭 Services	ද Amazon MQ	×	
New EC2 Experienc Tell us what you think		Search results for 'Amazon MQ'	
EC2 Dashboard	Services (54)	Services	See all 54 results 🕨 📤
EC2 Global View	Features (43)	2	
Events	Blogs (9,015)	Amazon MQ	
Tags	Documentation (1,073,481)	Managed message broker service for Apache ActiveMQ and RabbitMC	2

Figure 2. Searching Amazon MQ service of AWS

Step2: Click "Create brokers". Just like Figure 3.

aws iii Services Q	Search for services, features, blogs, docs, and more [Alt+S]	D & Ø Oregon ▼
Amazon MQ $$	Amazon MQ > Brokers	
Brokers Configurations	Brokers Info Q. Search name	C Edit Delete Create brokers < 1 > ③
	Name 🗢 Creation time (Local) 💌 Status	♥ Broker engine ♥ Deployment mode ♥ Instance type ♥

Figure 3. Creating a new broker

<u>Step3</u>: On the Select broker engine page, choose a broker type. In this case, Apache ActiveMQ was chosen. Just like Figure 4.

Services	Q Search for services, feat	tures, blogs, docs, and more [Alt+S]	
Amazon MQ	> Brokers > Create Activ	veMQ brokers	
Step 1 Select broker	engine	Select broker engine Info	
Step 2 Select deployr	nent and storage	Broker engine types	
type Step 3		Select broker engine A broker engine is a type of message broker that runs on Amazon MQ.	
Configure sett	ings	Apache ActiveMQ RabbitMQ	
		Ca	ncel Next

Figure 4. Choose a broker engine type

<u>Step4</u>: On the Select deployment and storage page, in the Deployment mode and storage type section, do the following:

- a. Choose the **Deployment mode** (in this case, **Active/standby broker**)
- b. Choose the **Storage type** (in this case, **Durability optimized**)

Just like Figure 5.

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Amazon MQ > Brokers > Cr Step 1 Select broker engine	eate ActiveMQ brokers Select deployment and storage t	ype
Step 2 Select deployment and storage type	Deployment mode and storage type	Clear Selections Reset to Default
Step 3 Configure settings	Deployment mode Info Single broker Single-instance broker Creates a broker in a single Availability Zone (A2), Suitable for development and testing individually or for production workloads when connected in a network of brokers.	Storage type Info Durability optimized Backed by Amazon Elastic File System (Amazon EFS), it provide the highest durations that is stored redundantly across multip Availability Zones and can be shared between active and stand brokers.
	 Active/standby broker Provides high availability and automatic failover capability. Creates a single broker instance in one Availability Zone (AZ) and another standby broker instance in a different AZ. Suitable for production workloads. 	Throughput optimized Backed by Amazon Elastic Block Store (Amazon EBS), it provide lower latency and higher throughput. Data is replicated across multiple servers in an Availability Zone (AZ) and is accessible from a single broker.
		Cannot be used with active/standby deployment mode

Figure 5. Select deployment and storage type

<u>Step5</u>: On the Configure settings page, in the Details and ActiveMQ Web Console access section, do the following. Just like Figure 6.

- 1. Enter the **Broker name**
- 2. Choose the Broker instance type (in this case, mq.m5.large)
- 3. Choose the Simple Authentication and Authorization
- 4. Determine Username
- 5. Determine Password

aws	Services Q Search for service	es, features, blogs, docs, and more [Alt+S]	
=	Select broker engine	Configure settings	
	Step 2 Select deployment and storage type	Details Determine "Broker name". Here, take Active MQ" as broker name for example.	\supset
	Step 3 Configure settings	Active MQ Active MQ Model handle for the second s	r
		Broker instance type Info 25 minutes mg.m5.large Storage type Info Storage type Info	
		Use for regular development, testing, and production workloads.	ystem
s	select Broker instance type. lere, take default setting "mg.m5.	Broker engine Info Apache ActiveMQ	
		ActiveMQ Access	
		Simple Authentication and Authorization LDAP Authentication	on and Authorization orize users using the credentials stored in :
	termine "Username" for	Simple Authentication and Authorization Authenticate and authorize users using the credentials stored in a Authenticate and authorize users using the credentials stored in a	
Act	tive MQ web console access.	Simple Authentication and Authorization Authenticate and authorize users using the credentials stored in a broker. Username The username for ActiveMQ web console access. root	
Act		Simple Authentication and Authorization Authenticate and authorize users using the credentials stored in a broker. Username Username The username for ActiveMQ web console access. Toot Carit contain commas (j), colons (j), equals signs (=), or spaces. Password	
Act	tive MQ web console access.	Simple Authentication and Authorization Authenticate and authorize users using the credentials stored in a broker. Username The username for ActiveMQ web console access. root Can't contain commas (), colons (), equals signs (=), or spaces. Password Authenticate and users 4 unique characters.	on and Authorization lorize users using the credentials stored in a

Figure 6. Configure setting page

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<u>Step6</u>: While Amazon MQ is creating the broker, it will display the Creation in progress status. It takes about 15 minutes. When the broker is created successfully, Amazon MQ displays the Running status.

aws Services C	Search for services, features, blogs, docs, and more [Alt+S]		ג 🎝 🖓 Oregon ד Wendy ד
Amazon MQ $ imes$	Amazon MQ > Brokers		٥
Brokers Configurations	Brokers (2) Info		C Edit Delete Create brokers
	Q Search nome		< 1 > ()
	Name V Creation time (Local)	Status V Broker engine	
	O ActiveMQ Jan 12, 2022 2:56 PM	Creation in progress ActiveMQ	Active/standby broker mq.m5.large
		Running	

Figure 7. Process of creating a broker

<u>Step7</u>: When the broker is built successfully, please click into the {ActiveMQ} broker. After user finds out **IP Address** of the MQTT broker, user needs to click **Edit** button for more setting.

mazon MQ > Brokers > ActiveMQ			
ActiveMQ			C
Details			(
ARN Info			
arn:aws:mq:us-west-2:211164896628:broker	:ActiveMQ:b-60935606-fb9b-47a1-a4b9-68453db912f7		
Specifications	Configuration	Security and network	Maintenance
Broker status	Configuration name	VPC Info	Automatic minor version upgrade
Running	ActiveMQ-configuration	vpc-0cd9bdd3feb4dfbfb 🖸	Yes
Broker name	Configuration revision	Subnet(s) Info	Maintenance window
ActiveMQ	Revision 1 - Auto-generated default for ActiveMQ- configuration on ActiveMQ 5.16.3	subnet-019ed50cd4e2aa80a 🔀 subnet-0e892756818665b3c 🔀	Monday 19:00 - 21:00 UTC
Broker instance type Info mq.m5.large	CloudWatch Logs	Security group(s) Info sg-0a42371cadd5d1216	
Deployment mode Info	General	Public accessibility Info	
Active/standby broker	Enabled - Logs 🔼	Yes	
Storage type Info	Audit	0	
Amazon Elastic File System	Enabled - Logs 🔼	IP Addresses 35.82.176.177	
Broker engine Info		52.13.162.65	
ActiveMQ			
Broker engine version			
5.16.3			

<u>Step8</u>: On Edit {ActiveMQ} page, in the Security and network section, choose the security group, which open port 8883 and 61619. These 2 ports are set when creating a security group.

Security and network	
Q, launch-wizard-2 (sg-0a42371cadd5d1216)	×
launch-wizard-2 (sg-0a42371cadd5d1216)	
	•
launch-wizard-2 (sg-0a42371cadd5d1216) 🗙	
At least one security group is required.	
	2
	Schedule modifications

Figure 9. Choose a security group for the broker

Note: The below AWS User Guide describe how to **Create a security group** <u>https://docs.aws.amazon.com/vpc/latest/userguide/VPC_SecurityGroups.html#creating-</u> <u>security-groups</u>

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Step9: On Amazon MQ console > Brokers > {ActiveMQ} page, choose Actions, Reboot broker. When it reboots done, the setting in step 8 will occur.

mazon MQ > Brokers > ActiveMQ			0
ActiveMQ			C
			View CloudWatch metri
Details			2 Roll back to the last cor
			Reboot broker Delete broker
ARN Info			Delete broker
am:aws:mq:us-west-2:211164896628:broker:ActiveM0	Q:b-60935606-fb9b-47a1-a4b9-68453db912f7		
Specifications	Configuration	Security and network	Maintenance
Broker status	Configuration name	VPC Info	Automatic minor version upgrade
Running	ActiveMQ-configuration	vpc-0cd9bdd3feb4dfbfb 🛃	Yes
Broker name	Configuration revision	Subnet(s) Info	Maintenance window
ActiveMQ	Revision 1 - Auto-generated default for ActiveMQ-configuration on ActiveMQ 5.16.3	subnet-019ed50cd4e2aa80a 🔀 subnet-0e892756818665b3c 🛃	Monday 19:00 - 21:00 UTC
Broker instance type Info	ActiveMQ 5.16.3	Security group(s) Info	
mq.m5.large	CloudWatch Logs	security group(s) info sq-0a42371cadd5d1216	
Deployment mode Info	General	Public accessibility info	
Active/standby broker	Enabled - Logs 🖸	Yes	
Storage type Info	Audit	IP Addresses	
Amazon Elastic File System	Enabled - Logs 🖸	35.82.176.177	
Broker engine Info		52.13.162.65	
ActiveMQ			
Broker engine version			
5.16.3			
Creation time			

Figure 10. Rebooting the broker

Step10: On Amazon MQ > Broker page, please wait Amazon MQ rebooting the broker, it will display the Rebooting status. It takes about 5 minutes. When the broker reboot successfully, Amazon MQ displays the **Running** status.

Amazon MQ > Brokers						
Brokers (1) Info					C Edit Delete	Create brokers
Q Search name						< 1 > ©
Name 🗸	Creation time (Local)	▼ Status		▽ Deployment mode		~
ActiveMQ	Jan 12, 2022 2:56 PM	Running	ActiveMQ	Active/standby broker	mq.m5.large	

Figure 11. Process of rebooting the broker

Step11: On the {ActiveMQ} broker page, in Connections section, there are MQTT/SSL or WebSocket/SSL protocol Endpoints, just like Figure 12. Below Table 1 shows the example URL of the {ActiveMQ} broker.

Domain Name	MQTT/SSL	WebSocket/SSL
b-60935606-fb9b-47a1-a4b9-68453db912f7- 1 .Mq.us-west- 2.amazonaws.com:8883	35.82.176.177:8883	35.82.176.177:61619
b-60935606-fb9b-47a1-a4b9-68453db912f7- 2 .Mq.us-west- 2.amazonaws.com:8883	52.13.162.65:8883	52.13.162.65:61619

1 1

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			IP Addresse
Amazon Elastic File	System	Enabled - Logs 🔀	35.82.176.
Broker engine Info			52.13.162.
ActiveMQ			
Broker engine versio	n		
5.16.3			
Creation time			
Jan 12, 2022 2:56 P	м		
Connections Access your queues and	topics and connect your application to the br	oker. If you disable public accessibility for your broker, your endpoints are reac	chable only within a VPC.
To be able		Console URL or wire-level protocol endpoints, you must configure	one of your security groups to allow inb
ActiveMQ Web	e to access your broker's ActiveMQ Web		one of your security groups to allow inb
ActiveMQ Web	e to access your broker's ActiveMQ Web Console ployment, only one of the ActiveMQ Web Con	sole URLs is active at a time.	one of your security groups to allow inb
ActiveMQ Web In an active/standby de https://b-60935606	e to access your broker's ActiveMQ Web	sole URLs is active at a time. q.us-west-2.amazonaws.com:8162	one of your security groups to allow inb
ActiveMQ Web (In an active/standby de https://b-60935606	to access your broker's ActiveMQ Web Console ployment, only one of the ActiveMQ Web Con 5-fb9b-47a1-a4b9-68453db912f7-1.mc	sole URLs is active at a time. q.us-west-2.amazonaws.com:8162	one of your security groups to allow inb
ActiveMQ Web (In an active/standby de https://b-60935606 https://b-60935606	t to access your broker's ActiveMQ Web Console ployment, only one of the ActiveMQ Web Con 5-fb9b-47a1-a4b9-68453db912f7-1.m 5-fb9b-47a1-a4b9-68453db912f7-2.m	sole URLs is active at a time. 1,us-west-2.amazonaws.com:8162 1,us-west-2.amazonaws.com:8162	
ActiveMQ Web (In an active/standby de https://b-60935606 https://b-60935606	t to access your broker's ActiveMQ Web Console ployment, only one of the ActiveMQ Web Con 5-fb9b-47a1-a4b9-68453db912f7-1.mm 5-fb9b-47a1-a4b9-68453db912f7-2.mm ployment, only one of the endpoints in each f ssl://b-60935606-fb9b-47a1-a4	sole URLs is active at a time. q.us-west-2.amazonaws.com:8162	
ActiveMQ Web (In an active/standby de https://b-60935606 https://b-60935606 Endpoints In an active/standby de	t to access your broker's ActiveMQ Web Console ployment, only one of the ActiveMQ Web Con- 5-fb9b-47a1-a4b9-68453db912f7-1.mt ployment, only one of the endpoints in each p ssk://b-60335606-fb9b-47a1-a4 ssk://b-60335606-fb9b-47a1-a4 amqp+ssk://b-60335606-fb9b-47a1-a4	sole URLs is active at a time. q.us-west-2.amazonaws.com:8162 q.us-west-2.amazonaws.com:8162 sair is active at a time. You can allow your application to establish connection t tb9-68453db912f7-1.mq.us-west-2.amazonaws.com:61617	
ActiveMQ Web (In an active/standby de https://b-60935606 https://b-60935606 Endpoints In an active/standby de OpenWire	t to access your broker's ActiveMQ Web Console ployment, only one of the ActiveMQ Web Con 5-fb9b-47a1-adb9-68453db912f7-1.m 5-fb9b-47a1-adb9-68453db912f7-2.m ployment, only one of the endpoints in each p ssk://b-60355606-fb9b-47a1-a ssi://b-60355606-fb9b-47a1-a amqp+ssl://b-6035606-fb9b-47a1-a amqp+ssl:/b-6035606-fb9b-47a1-a amqp+ssl:/b-6035606-fb9b-47a1-a amqp+ssl:/b-6035606-fb9b-47a1-a amqp+ssl:/b-6035606-fb9b-47a1-a amqp+ssl:/b-6035606-fb9b-47a1-a amqp+ssl:/b-6035606-fb9b-47a1-a amqp+ssl:/b-6035606-fb9b-47a1-a amqp+ssl:/b-6035606-fb9b-47a1-a amqp+ssl:/b-6035606-fb9b-47a1-a amqp+ssl:/b-6035606-fb9b-47a1-a amp+ssl:/b-6035606-fb9b-47a1-a amqp+ssl:/b-6035606-fb9b-47a1-a amqp+ssl:/b-6035606-fb9b-47a1-a amqp+ssl:/b-6035606-fb9b-47a1-a amqp+ssl:/b-6035606-fb9b-47a1-a amqp+ssl:/b-6035606-fb9b-47a1-a amqp+ssl:/b-6035606-fb9b-47a1-a amqp+ssl:/b-6035606-fb9b-47a1-a amqp+ssl:/b-6035606-fb9b-47a1	isole URLs is active at a time. pus-west-2.amazonaws.com:8162 qus-west-2.amazonaws.com:8162 bair is active at a time. You can allow your application to establish connection t bb9-68453db912f7-1.mq.us-west-2.amazonaws.com:61617 bb9-68453db912f7-2.mq.us-west-2.amazonaws.com:61617 t7a1-a4b9-68453db912f7-1.mq.us-west-2.amazonaws.com:5671	
To be able ActiveMQ Web 1 In an active/standby de https://b-60935606 https://b-60935606 Endpoints In an active/standby de OpenWire AMQP	t to access your broker's ActiveMQ Web Console ployment, only one of the ActiveMQ Web Con 5-fb9b-47a1-a4b9-68453db912f7-1.mu ployment, only one of the endpoints in each 1 ssl://b-60935606-fb9b-47a1-a4 ssl://b-60935606-fb9b-47a1-a4 amqp+ssl://b-60935606-fb9b-4 stomp+ssl://b-60935606-fb9b- stomp+ssl://b-60935606-fb9b-	sole URLs is active at a time. µus-west-2.amazonaws.com:8162 qus-west-2.amazonaws.com:8162 aair is active at a time. You can allow your application to establish connection to tb9-68453db912f7-1.mq.us-west-2.amazonaws.com:61617 tb9-68453db912f7-2.mq.us-west-2.amazonaws.com:61617 f7a1-a4b9-68453db912f7-2.mq.us-west-2.amazonaws.com:5671 47a1-a4b9-68453db912f7-2.mq.us-west-2.amazonaws.com:51614 47a1-a4b9-68453db912f7-1.mq.us-west-2.amazonaws.com:51614 47a1-a4b9-68453db912f7-1.mg.us-west-2.amazonaws.com:51614 47a1-a4b9-68453db912f7-1.mg.us-west-2.amazonaws.com	
To be able ActiveMQ Web (In an active/standby de https://b-60935606 Endpoints In an active/standby de OpenWire AMQP STOMP MQTT	t to access your broker's ActiveMQ Web Console ployment, only one of the ActiveMQ Web Cor 5-fb9b-47a1-a4b9-68453db912f7-1.mu 5-fb9b-47a1-a4b9-68453db912f7-2.mu sit://b-60935666-fb9b-47a1-a4 sit://b-60935666-fb9b-47a1-a4 amqp+sit://b-60935666-fb9b-4 amqp+sit://b-60935666-fb9b-4 stomp+sit://b-60935666-fb9b-4 mqt+sit://b-60935606-fb9b-4	sole URLs is active at a time. µus-west-2.amazonaws.com:8162 qus-west-2.amazonaws.com:8162 aair is active at a time. You can allow your application to establish connection to tb9-68453db912f7-1.mq.us-west-2.amazonaws.com:61617 tb9-68453db912f7-2.mq.us-west-2.amazonaws.com:61617 f7a1-a4b9-68453db912f7-2.mq.us-west-2.amazonaws.com:671 47a1-a4b9-68453db912f7-2.mq.us-west-2.amazonaws.com:61614 47a1-a4b9-68453db912f7-2.mq.us-west-2.amazonaws.com:61614 7a1-a4b9-68453db912f7-2.mq.us-west-2.amazonaws.com:61614 7a1-a4b9-68453db912f7-2.mq.us-west-2.amazonaws.com 1614	
To be able ActiveMQ Web I In an active/standby de https://b-60935606 Endpoints In an active/standby de OpenWire AMQP STOMP	to access your broker's ActiveMQ Web Console ployment, only one of the ActiveMQ Web Con- 5-fb9b-47a1-adb9-68453db912f7-1.mc 5-fb9b-47a1-adb9-68453db912f7-2.mc sst://b-60355666-fb9b-47a1-a- amqp+sst://b-6035566-fb9b-47a1-a- amqp+sst://b-6035566-fb9b-4 stomp+sst://b-6035566-fb9b-4 mqt+sst://b-6035566-fb9b-4 mqt+sst://b-6035566-fb9b-4 mqt+sst://b-6035566-fb9b-4 mqt+sst://b-6035566-fb9b-4 mqt+sst://b-6035566-fb9b-4 mqt+sst://b-6035566-fb9b-4 mqt+sst://b-6035566-fb9b-4 mgt+sst:/b-6035566-fb9b-4 mgt+sst:/b-6035566-fb9b-4 mgt+sst:/b-6035566-fb9b-4 mgt+sst:/b-6035566-fb9b-4 mgt+sst:/b-6035566-fb9b-4 mgt+sst:/b-6035566-fb9b-4 mgt+sst:/b-6035566-fb9b-4 mgt+sst:/b-6035566-fb9b-4 mgt+sst:/b-603566-fb9b-4 mgt+sst:/b-603566-fb9b-4 mgt+sst:/b-603566-fb9b-4 mgt+sst:/b-603566-fb9b-4 mgt+sst:/b-603566-fb9b-4 mgt+sst:/b-603566-fb9b-4 mgt+sst:/b-603566-fb9b-4 mgt+sst:/b-603566-fb9b-4 mgt+sst:/b-603566-fb9b-4 mgt+sst:/b-603566-fb9b-4 mgt+sst:/b-603566-fb9b-4 mgt+sst:/b-603566-fb9b-4 mgt+sst:/b-603566-fb9b-4 mgt+sst:/b-603566-fb9b-4 mgt+sst:/b-603566-fb9b-4 mgt+sst:/b-603566-fb9b-4 mgt+sst:/b-603566-fb9b-4 mgt+sst	sole URLs is active at a time. µus-west-2.amazonaws.com:8162 qus-west-2.amazonaws.com:8162 aair is active at a time. You can allow your application to establish connection to tb9-68453db912f7-1.mq.us-west-2.amazonaws.com:61617 tb9-68453db912f7-2.mq.us-west-2.amazonaws.com:61617 f7a1-a4b9-68453db912f7-2.mq.us-west-2.amazonaws.com:5671 47a1-a4b9-68453db912f7-2.mq.us-west-2.amazonaws.com:51614 47a1-a4b9-68453db912f7-1.mq.us-west-2.amazonaws.com:51614 47a1-a4b9-68453db912f7-1.mg.us-west-2.amazonaws.com:51614 47a1-a4b9-68453db912f7-1.mg.us-west-2.amazonaws.com	

<u>Step12</u>: Open Web GUI of WISE-4000/4220 series and go to **Configuration > Cloud** to set on **Cloud Configuration** page. Just like right side of Figure 13. The following is the field introduction in config setting of WISE-4000/4220.

- 1. Select Service: Select a cloud service of WISE-4000/4200. In this case, the field is set as "iSensing MQTT."
- 2. **MQTT Host Name**: Input broker's IP or URL into this field. In this case, the field is set as **"52.13.162.65"** (refer to step 11)
- 3. **Port Number**: Input broker's port number. In this case, the field is set as **"8883"** (refer to Step 11)
- 4. **SSL Secure**: the function will make data transferred more securely. In this case, the field is set as **"Enable**" due to AWS only support via MQTT or WebSocket.
- 5. WebSocket: If user uses MQTT, click Disable. If WebSocket, click Enable. In this case, the field is set as "Enable."
- 6. User Name: Input broker's username. In this case, the field is set as **"root"** (refer to Step 5)
- Password: Input broker's password corresponding to the username. In this case, the field is set as "AEtest123@#\$%" (refer to Step 5)



Storage type Info Amazon Elastic File Broker engine Info ActiveMO	System	Audit Enabled - Logs 🖸	IP Addresses 35.82.176.177 52.13.162.65					,
Broker engine versio 5.16.3 Creation time			X WISE-4220-5214 ← → C ☆ ▲ Not s WISE-4220-S214	× + secure 192.168.50.34/config/index.ht	ml		Q	~ @ ☆
Jan 12, 2022 2:56 P Connections Access your queues and		disable public accessibility for your broker, your endpoints a	 ● Information <i>▶</i> Configuration 	Cloud Configuration	iSensing MQTT			
ActiveMQ Web		JRL or wire-level protocol endpoints, you must confi	Φ© Advanced →	Current Status Connection Status Error Code	Connected			
https://b-60935600 Endpoints In an active/standby de OpenWire	ssl://b-60935606-fb9b-47a1-a4b9-68453db ssl://b-60935606-fb9b-47a1-a4b9-68453db	2.amazonaws.com:8162 eat a time. You can allow your application to establish conne 912/7-1.mq.us-west-2.amazonaws.com:61617 912/7-2.mq.us-west-2.amazonaws.com:61617	cl	Setting MQTT Host Name 52.13.16	2 Refresh	Ort Number 8883		
AMQP	amqp+ssl://b-60935606-fb9b-47a1-a4b9-68 stomp+ssl://b-60935606-fb9b-47a1-a4b9-68 stomp+ssl://b-60935606-fb9b-47a1-a4b9-68	453db912f7-1.mq.us-west-2.amazonaws.com:5671 453db912f7-2.mq.us-west-2.amazonaws.com:5671 3453db912f7-1.mq.us-west-2.amazonaws.com:61614 3453db912f7-2.mq.us-west-2.amazonaws.com:61614		SSL secure O Disable WebSocket ® Disable	 Enable Enable 	WebSocket Path		
MQTT WSS	mqtt+ssl://b-60935606-fb9b-47a1-a4b9-684 wss://b-60935606-fb9b-47a1-a4b9-68453dt	153db912[7-1.mg.us-west-2.amazonaws, & 8883 153db912[7-2.mg.us-west-2.amazonaws.com 8883 9912[7-1.mg.us-west-2.amazonaws.com:61619 9912[7-2.mg.us-west-2.amazonaws.com:61619		User Name root		Password 🖉 AEtest12	31@#\$%	

Figure 13. Setting of WISE connecting the broker

<u>Step13</u>: Go to Advanced > Data Logger > Logger Configuration page and turn on I/O Log switch in Push Notification section. Please notice that click submit button to save the setting. Just like Figure 14.

Information	🖺 Data Logger
Littl I/O Status	Data Configuration Logger Configuration Local Data Query
o \$ Advanced ▼	Memory Storage
Access Control	VO Log
Data Logger	System Log
Diagnostician	
	Cloud Upload (CSV format)
	Push Notification (JSON format)
	System Log OFF Push MAC Address Push Timestamp
	Push MAC Address Push Push
	Push MAC Address Push Timestamp Timestamp Coordinated Universal Time(UTC)

Figure 14. Turn on push IO log setting

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<u>Result</u>: Please use any MQTT Client, such as MQTTBox, to subscribe the {**ActiveMQ**} broker with **Advantech**/{**74FE4858ED09**}/**data** topic. And the user will receive WISE-4000/4220's data from Amazon MQ. Just like Figure 15.

Amazon MQ × Brokers Configurations	Storage type I nfo Amazon Elastic File System Broker engine I nfo	Audit IP Addresses Enabled - Logs [2] 35.82.176.177 52.13.162.65 52.13.162.65		
	ActiveMQ Broker engine version 5.16.3 Creation time Jan 12, 2022 2:56 PM	WISE-4220-5214 x + ← → C △ ▲ Not secure 192.168.50.34/config/index.html WISE-4220-S214 WISE-4220-S214 ■ ■ ■ ■		
MQTTBox MQTTBox Edit Help		Information Cloud Configuration		
AW5 - mqtts://52.13.162.65:88	X Add publisher ④ Add subscriber ④ X Adamtsch/f4fE455ED06# ▲ 3T02:05:0027*;q~192,°c~19,°ai3*-0.153,°ai_st3*-1,°ai4* ▲	✓ Configuration Select Service Image: Sensing MQTT ✓ Lat I/O Status Current Status Current Status C@ Advanced → Connection Status Connected		
qos : 1, retain : false, d data, messageld : 898 8345048505045484944 9345857443497105513	cmd: publish, dup : false, topic : Advantech/74FE4858ED09/ . length : 127, Raw payload : 123341153458574434116345 54951944850594853584489034429113345849575044349 348644846495314439710511511615134584944349710 14434971059511511652345849125	Access Control Confector States Control Data Logger Error Code None Diagnostician CRetresh		
	3T02:05:00Z", "q".192, "c":9, "di1";false, "di2";false, "di3";fal 152, "ai_st1":1, "ai2":0.152, "ai_st2":1}	Setting		
data, messageld : 897 834504850504548494 934585744341001054 1001055134581029710	emd: publish, dup : false. topic : Advantech/74FE4858ED09/ i.ength: 173, Raw payload: 12334115345857443416345 549518448005849536848486034443115345849575044349 9365102471031515101443410105630485102971081151014438 0811510144341001055234851029710811510114343710543348 95115116143434943439710550348848484953030434971	MQTT Host Name 52.13.162.65 SSL secure O Disable Enable WebSocket Disable C Enable	Port Number 8883 WebSocket Path	
059511511650345849 {"s":8,"t":"2022-01-13 152,"ai_st4":1}	125 3T02.04:50Z","q".192,"c".9,"al3".0.152,"al_st3":1,"al4""0.	User Name root Heartbeat 5 Frequency (sec)	Password rootAEtes	st!@#

Figure 15. Subscribe topic of WISE-4000/4220