Advantech AE Technical Share Document

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Category	■FAQ □SOP	Related OS	N/A		
Abstract	How to Send WISE-400	0 IO Data to and	Receive Downlink Control from		
Abstract	AmazonMQ Service on A				
Keyword	WISE, MQTT, AWS, An	nazon, Amazon N	AQ, Apache ActiveMQ		
Related	elated WISE-4000/LAN, WISE-4000, WISE-4220, WISE-4210-AP, WISE-447				
Product					

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.

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⇒ <u>https://docs.aws.amazon.com/amazon-mq/latest/developer-guide/getting-started-activemq.html#create-activemq-broker</u>

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

aws Services	Q Amazon MQ	×	
New EC2 Experienc		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	Documentatior	Managed message broker service for Ap a (1,073,481)	ache ActiveMQ and RabbitMQ

Figure 2. Searching Amazon MQ service of AWS

<u>Step2</u>: Click "Create brokers". Just like Figure 3.

aws	Services	٩	Searc	h for services, features, blogs, docs, and more	[Alt+S]					۶.	\$	0	Oregon 🔻
Ama	zon MQ	<		Amazon MQ > Brokers									
Broke Config	rs gurations			Brokers Info					C Edit	Delete	0	Create	brokers
				Q Search name								< 1	> ©
				Name v Creation time (Loc	al)	▼ Status	▽ Broker engine	▽ Deployment mode	∇	Instar	nce 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, fea	tures, blogs, docs, and more [Alt+S]	
Amazon MQ > Brokers > Create Acti	veMQ brokers	
Step 1 Select broker engine	Select broker engine Info	
Step 2 Select deployment and storage	Broker engine types	
	Select broker engine A <i>broker engine</i> is a type of message broker that runs on Amazon MQ.	
Configure settings	Apache ActiveMQ RabbitMQ	
	Cancel Ne	xt

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 > Cre Step 1 Select broker engine	ate ActiveMQ brokers Select deployment and storage t	type
	Step 2 Select deployment and storage type	Deployment mode and storage type	Clear Selections Reset to Defaults
	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 2 Durability optimized Backed by Amazon Elastic File System (Amazon EF5), it provides the highest durability. Data is stored redundantly across multiple Availability Zones and can be shared between active and standby 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 provides 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			
=	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 Multiple 1-50 characters long. Limited to alphanumeric characters, dashes, and underscores. Deployment mode in Active/Standby broker Estimated deployment	nfo r nt time
		Broker instance type Info 25 minutes mq.m5.large Storage type Info	
		Use for regular development, testing, and production workloads. 2 vCPU 8Gb RAM High Network Amazon Elastic File Sy	ystem
s	elect Broker instance type.	Broker engine Info Apache ActiveMQ	
		ActiveMQ Access	
		ActiveMQ Access S LDAP Authentication and Authorization Authenticate and authorize users using the credentials stored in a broker. LDAP Server.	on and Authorization orize users using the credentials stored in .
Det	termine "Username" for	ActiveMQ Access	on and Authorization fortze users using the credentials stored in a
DetAct	termine "Username" for ive MQ web console access.	ActiveMQ Access	on and Authorization fortze users using the credentials stored in a
Det Act Det	termine "Username" for ive MQ web console access. termine "Password" for ive MQ web console access.	3 • Simple Authentication and Authorization Authenticate and authorize users using the credentials stored in a broker. Username The username for ActivetMQ web console access. root Carit contain commas (j), colons (j), equals signs (-), or spaces. Password Letest123i@#5% Naminum 12 characters, at least 4 unique characters. Show	on and Authorization lorize users using the credentials stored in a
Del Act	termine "Username" for ive MQ web console access. termine "Password" for ive MQ web console access.	ActiveMQ Access	on and Authorization orize 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 name		< 1 > ()
	Name V Creation time (Local)	Status 🗢 Broker engine	∇ Deployment mode ∇ Instance type ∇
	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.

ActiveMQ			C
Details			(
ARN Info			
arn:aws:mq:us-west-2:211164896628:broker	:ActiveMQ:b-60935606-tb9b-47a1-a4b9-68453db912t7		
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) Infe	
Deployment mode Info	General		
Active/standby broker	Enabled - Logs 🔼	Public accessibility Into	
Storage type Info	Audit	0	
Amazon Elastic File System	Enabled - Logs 🔼	IP Addresses	
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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<u>Step9</u>: On Amazon MQ console > Brokers > {ActiveMQ} page, choose Actions, Reboot broker. When it reboots done, the setting in step 8 will occur.

Q. Search for services, features, blogs, docs, and more	[Alt+S]		5 A Ø 4
umazon MQ > Brokers > ActiveMQ ActiveMQ			
Details			Roll back to the last configu Reboot broker
ARN Info am:aws:mg:us-west-2:211164896628:broker:ActiveMQ:b-60935606-fb98	47a1-a4b9-68453db912f7		Delete broker
Specifications	Configuration	Security and network	Maintenance
Broker status Running	Configuration name ActiveMQ-configuration	VPC info vpc-0cd9bdd3feb4dfbfb 🛃	Automatic minor version upgrade Yes
Broker name ActiveMQ Broker instance type Info mg.m5.Imge	Configuration revision Revision 1 - Auto-generated default for ActiveMQ-configuration on ActiveMQ 5.16.3 CloudWatch Logs	Subnet(s) Infe subnet-019ed50cd4e2aa80a 🖸 subnet-0e892756818665b3c 🗗 Security group(s) Infe	Maintenance window Monday 19:00 - 21:00 UTC
Deployment mode info Active/standby broker	General Enabled - Logs 🚺	sg-0a42371cadd5d1216	
Storage type Info Amazon Elastic File System	Audit Enabled - Logs 🚺	IP Addresses 35.82.176.177	
Broker engine Info ActiveMQ		52.13.162.65	
Broker engine version 5.16.3			
Creation time			

Figure 10. Rebooting the broker

<u>Step10</u>: 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	▽ Broker engine		abla Instance type $ abla$
ActiveMQ Jan 12, 2022 2:56 PM	Running	ActiveMQ	Active/standby broker	mq.m5.large

Figure 11. Process of rebooting the broker

<u>Step11</u>: 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.

Table 1. Example OKE of sample bloker					
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			

Table 1. Example URL of sample broker

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		Audit	ID Addrosse
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 PI	м		
Connections			
Access your queues and	topics and connect your application to the brok	ker. If you disable public accessibility for your broker, your endpoints are reac	hable only within a VPC.
Enable co To be able	nnections to your broker to access your broker's ActiveMQ Web C	onsole URL or wire-level protocol endpoints, you must configure	one of your security groups to allow inb
Enable co To be able Active/Standby de https://b-60935606 https://b-60935606 Endpoints	nnections to your broker to access your broker's ActiveMQ Web C Console Joyment, only one of the ActiveMQ Web Conso -fb9b-47a1-a4b9-66453db912f7-1.mq, -fb9b-47a1-a4b9-68453db912f7-2.mq,	onsole URL or wire-level protocol endpoints, you must configure o ble URLs is active at a time. us-west-2.amazonaws.com:8162 us-west-2.amazonaws.com:8162	one of your security groups to allow int
Enable co To be able ActiveMQ Web (In an active/standby de https://b-60935606 https://b-60935606 Endpoints In an active/standby de	nnections to your broker to access your broker's ActiveMQ Web C Console Joyment, only one of the ActiveMQ Web Conso. -fb9b-47a1-a4b9-68453db912f7-1.mq.i -fb9b-47a1-a4b9-68453db912f7-2.mq.i	onsole URL or wire-level protocol endpoints, you must configure of se URLs is active at a time. us-west-2.amazonaws.com:8162 us-west-2.amazonaws.com:8162	one of your security groups to allow inb
Enable con To be able ActiveMQ Web (In an active/standby de https://b-60935606 https://b-60935606 Endpoints In an active/standby de OpenWire	nnections to your broker to access your broker's ActiveMQ Web C Console Joyment, only one of the ActiveMQ Web Conso -fb9b-47a1-a4b9-68453db912f7-1.mq, -fb9b-47a1-a4b9-68453db912f7-2.mq, sk://b-60935606-fb9b-47a1-a4b sk://b-60935606-fb9b-47a1-a4b	onsole URL or wire-level protocol endpoints, you must configure of sele URLs is active at a time. us-west-2.amazonaws.com:8162 us-west-2.amazonaws.com:8162 ir is active at a time. You can allow your application to establish connection t 9-68453db912/7-1.mq.us-west-2.amazonaws.com:61617 9-68453db912/7-2.mq.us-west-2.amazonaws.com:61617	one of your security groups to allow int o either endpoint by using the ActiveMQ Falle
Enable co To be able To be able ActiveMQ Web (In an active/standby de https://b-60935606 https://b-60935606 Endpoints In an active/standby de OpenWire AMQP	nnections to your broker to access your broker's ActiveMQ Web C Console ployment, only one of the ActiveMQ Web Conso. -fb9b-47a1-a4b9-68453db912f7-1.mq, -fb9b-47a1-a4b9-68453db912f7-2.mq, -fb9b-47a1-a4b9-68453db912f7-2.mq, -fb9b-47a1-a4b9-68453db912f7-2.mq, -fb9b-47a1-a4b9-68453db912f7-2.mq, -fb9b-47a1-a4b9-68453db912f7-2.mq, -sk://b-6935606-fb9b-47a1-a4b amqp+ssk://b-6935606-fb9b-47a -amqp+ssk://b-6935606-fb9b-47a-	onsole URL or wire-level protocol endpoints, you must configure of ble URLs is active at a time. us-west-2,amazonaws.com:8162 us-west-2,amazonaws.com:8162 ir is active at a time. You can allow your application to establish connection to 9-68453db91277-1.mq.us-west-2,amazonaws.com:61617 9-68453db91277-2.mq.us-west-2,amazonaws.com:5671 a1-a4b9-68453db91277-2.mq.us-west-2,amazonaws.com:5671	one of your security groups to allow int
Enable con To be able ActiveMQ Web 1 In an active/standby de https://b-60935606 Endpoints In an active/standby de OpenWire AMQP STOMP	Intections to your broker to access your broker's ActiveMQ Web C Console ployment, only one of the ActiveMQ Web Consol -fb9b-47a1-a4b9-68453db912f7-1.mq. -fb9b-47a1-a4b9-68453db912f7-2.mq. st://b-60935606-fb9b-47a1-a4b ss://b-60935606-fb9b-47a1-a4b amqp+st://b-60935606-fb9b-47a1-a4b amqp+st://b-60935606-fb9b-47a1-a4b amqp+st://b-60935606-fb9b-47a1-a4b stomp+st://b-60935606-fb9b-47a1-a4b	onsole URL or wire-level protocol endpoints, you must configure of set URLs is active at a time. US-west-2.amazonaws.com:8162 Us-west-2.amazonaws.com:8162 set Stative at a time. You can allow your application to establish connection t 9-68453db9127-1.mq.us-west-2.amazonaws.com:61617 9-68453db91277-1.mq.us-west-2.amazonaws.com:51617 a1-a4b9-68453db91277-1.mq.us-west-2.amazonaws.com:5671 a1-a4b9-68453db91277-1.mq.us-west-2.amazonaws.com:51614 a1-a4b9-68453db91277-1.mq.us-west-2.amazonaws.com:61614 a1-a4b9-68453db91277-2.mq.us-west-2.amazonaws.com:61614	one of your security groups to allow int o either endpoint by using the ActiveMQ Falle
Enable con To be able Active/MQ Web 0 In an active/standby de https://b-60935606 Endpoints In an active/standby de OpenWire AMQP STOMP MQTT	Intections to your broker to access your broker's ActiveMQ Web C Console aloyment, only one of the ActiveMQ Web Consol -fb9b-47a1-a4b9-68453db912f7-1.mq. -fb9b-47a1-a4b9-68453db912f7-2.mq. st://b-60935606-fb9b-47a1-a4b st://b-60935606-fb9b-47 amqp+st://b-60935606-fb9b-47 atomp+st://b-60935606-fb9b-47 stomp+st://b-60935606-fb9b-47 stomp+st://b-60935606-fb9b-47	onsole URL or wire-level protocol endpoints, you must configure of le URLs is active at a time. us-west-2amazonaws.com:8162 us-west-2.amazonaws.com:8162 ir is active at a time. You can allow your application to establish connection t 9-68453db912f7-1.mg.us-west-2.amazonaws.com:61617 9-68453db912f7-2.mg.us-west-2.amazonaws.com:61617 a1-a4b9-68453db912f7-1.mg.us-west-2.amazonaws.com:6114 a1-a4b9-68453db912f7-2.mg.us-west-2.amazonaws.com:61614 a1-a4b9-68453db912f7-1.mg.us-west-2.amazonaws.com:6164 a1-a4b9-68453db912f7-1.mg.us-west-2.amazonaws.com:6164	one of your security groups to allow int
Enable con To be able ActiveMQ Web 4 In an active/standby de https://b-60935606 Endpoints In an active/standby de OpenWire AMQP STOMP MQTT WE5	Intections to your broker to access your broker's ActiveMQ Web C Console playment, only one of the ActiveMQ Web Conso -fb9b-47a1-a4b9-68453db912f7-1.mq. -fb9b-47a1-a4b9-68453db912f7-2.mq.t sis://b-60935606-fb9b-47a1-a4b amg+sis://b-60935606-fb9b-47a1-a4b amg+sis://b-60935606-fb9b-47a stomp+sis://b-60935606-fb9b-47a tomp+sis://b-60935606-fb9b-47a mqt+sis://b-60935606-fb9b-47a	onsole URL or wire-level protocol endpoints, you must configure of ble URLs is active at a time. us-west-2.amazonaws.com:8162 us-west-2.amazonaws.com:8162 9-68453db912f7-1.mq.us-west-2.amazonaws.com:61617 9-68453db912f7-2.mq.us-west-2.amazonaws.com:61617 a1-a4b9-68453db912f7-1.mq.us-west-2.amazonaws.com:61614 /a1-a4b9-68453db912f7-2.mq.us-west-2.amazonaws.com:61614 /a1-a4b9-68453db912f7-2.mq.us-west-2.amazonaws.com:61614 /a1-a4b9-68453db912f7-2.mq.us-west-2.amazonaws.com:61614 /a1-a4b9-68453db912f7-2.mq.us-west-2.amazonaws.com:61614 11-a4b9-68453db912f7-2.mq.us-west-2.amazonaws.com:81614 11-a4b9-68453db912f7-2.mq.us-west-2.amazonaws.com:81614 11-a4b9-68453db912f7-2.mq.us-west-2.amazonaws.com:8188	one of your security groups to allow inb
Enable con To be able ActiveMQ Web 1 In an active/standby de https://b-60935606 Endpoints In an active/standby de OpenWire AMQP STOMP MQTT WSS	Intections to your broker to access your broker's ActiveMQ Web C Console aloyment, only one of the ActiveMQ Web Consol -fb9b-47a1-a4b9-68453db912f7-1.mq. -fb9b-47a1-a4b9-68453db912f7-2.mq. st://b-60935606-fb9b-47a1-a4b amqp+st://b-60935606-fb9b-47 amq+st://b-60935606-fb9b-47 atomp+st://b-60935606-fb9b-47 atomp+st://b-60935606-fb9b-47 atomp+st://b-60935606-fb9b-47 mqt+st://b-60935606-fb9b-47 mqt+st://b-60935606-fb9b-47 atomp+st://b-60935606-fb9b-47 atomp+st://b-60935606-fb9b-47 atomp+st://b-60935606-fb9b-47 mqt+st://b-60935606-fb9b-47 atomp+	onsole URL or wire-level protocol endpoints, you must configure of set URLs is active at a time. US-west-2.amazonaws.com:8162 Us-west-2.amazonaws.com:8162 Set453db912f7-1.mq.us-west-2.amazonaws.com:61617 9-68453db912f7-1.mq.us-west-2.amazonaws.com:61617 a1-a4b9-68453db912f7-1.mq.us-west-2.amazonaws.com:61614	one of your security groups to allow inb

<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 Sys Broker engine Info	stern	Audit Enabled - Logs 🕻	IP Addresses 35.82.176.177 52.13.162.65	7				Ŭ
ActiveMQ Broker engine version 5.16.3 Creation time			 ★ WISE-4220-5214 ← → C △ ▲ No 	× + ot secure 192.168.50.34/config/index.htm	ml		Q B	- *
Jan 12, 2022 2:56 PM Connections Access your queues and to	pics and connect your application to the broker. If you	disable public accessibility for your broker, your endpoints a	WISE-4220-S214 Information Configuration	Cloud Configuration	🗃 iSensing MQTT 🗸 🗸			
Enable conn To be able to ActiveMQ Web Co	ections to your broker access your broker's ActiveMQ Web Console U Insole writent, only one of the ActiveMO Web Console URLs if	RL or wire-level protocol endpoints, you must confi	oc® Advanced →	Current Status Connection Status Error Code	Connected None			
https://b-60935606-fl https://b-60935606-fl Endpoints In an active/standby deple OpenWire	99b-47a1-a4b9-68453db912f7-1.mq.us-west- 99b-47a1-a4b9-68453db912f7-2.mq.us-west- yment, only one of the endpoints in each pair is active sst://b-60935606-fb9b-47a1-a4b9-68453db sst://b-60935606-fb9b-47a1-a4b9-68453db	2.amazonaws.com:8162 2.amazonaws.com:8162 sit a time. You can allow your application to establish conne 11277-1 mq.us-west-2.amazonaws.com:61617 11277-2.mq.us-west-2.amazonaws.com:61617	et	Setting MOIT Host Name 52 13 162	ØRefresh	8883 Port Number		
AMQP	amqp+ssl://b-60935606-fb9b-47a1-a4b9-68 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 453db912f7-1.mq.us-west-2.amazonaws.com:61614 453db912f7-2.mq.us-west-2.amazonaws.com:61614		SSL secure Obisable	Enable	WebSocket Path		
MQTT WSS	mqtt+sst://b-60935606-fb9b-47a1-abb9-684 mqtt+sst://b-60935606-fb9b-47a1-abb9-684 wsr://b-60935606-fb9b-47a1-abb9-68453dt wsr://b-60935606-fb9b-47a1-abb9-68453dt	55db912f7-1.mq.us-west-2.amazonaws. 8883 53db912f7-2.mq.us-west-2.amazonaws.com 8883 912f7-1.mq.us-west-2.amazonaws.com.61619 912f7-2.mq.us-west-2.amazonaws.com.61619		User Name root		Password AEte	x1231@#\$%	

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.

0 Information	TD Data Lawren		
G momaton	El Data Logger		
F Configuration	Data Configuration Logger Configuration	Local Data Query	
Ltd I/O Status			
o\$ Advanced 👻	Memory Storage		
Access Control	VO Log		
Data Logger			
Diagnostician	System Log OFF		
	Claud Haland (00) (Second		
	Cloud Opload (CSV format)		
	Note: Cloud Upload configuration is	only available when I/O Log	
	or System Log in I	Memory Storage is enabled.	
	Push Notification (JSON format)		
	VO Log		
	System Log OFF		
	🖾 Push MAC		
	Address		
	Push Timestamp		
	Timostamo	ardianted Lleiungen Time/LITC)	~
	Timestamp Cc Format	ordinated Universal Time(UTC)	~
	Timestamp Co Format	ordinated Universal Time(UTC)	~
	Timestamp Co Format	ordinated Universal Time(UTC)	✔ ✔ Submit
	Timestamp Ca Format	ordinated Universal Time(UTC)	✔ ✓ Submit

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		
E Menu		Computation Select Service isensing MQTT ✓ idd I/O Status Current Status Connection Status Connection Status		
qos : 1, retain : false, t data, messageld : 898 834504850504548494 934585744349710551 552345845484649535	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		
{"s":9,"t":"2022-01-13 se,"di4":false,"ai1":0.	3T02:05:00Z", "q".192, "c":9, "di1";false, "di2";false, "di3";fal 152, "ai_st1":1, "ai2":0.152, "ai_st2":1}	Setting		
qos: 1, retain : false, d data, messageid: 897 834504850504548494 934588744341001054 1001055134581029710 484649535044349710	emd: publish, dup : false. topic : Advantech/74FE4858ED09 i length: 173, Raw payload: 12334115345857443416345 54951844800584953684848600344431173345849575044349 9365102477016115101443410016503485102971081151014438 08115101443410016552348810297108115101443871 59115116143438434397105503488484845953034343971	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	Password rootAEtes	st!@#

Figure 15. Subscribe topic of WISE-4000/4220