

IBM MQ on Cloud service

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Agenda

- **Introduction to the MQ Cloud service**
- **Mini demo**
- **New features**
 - TLS
 - AMS
- **New deployment options**

Introducing the MQ Cloud service

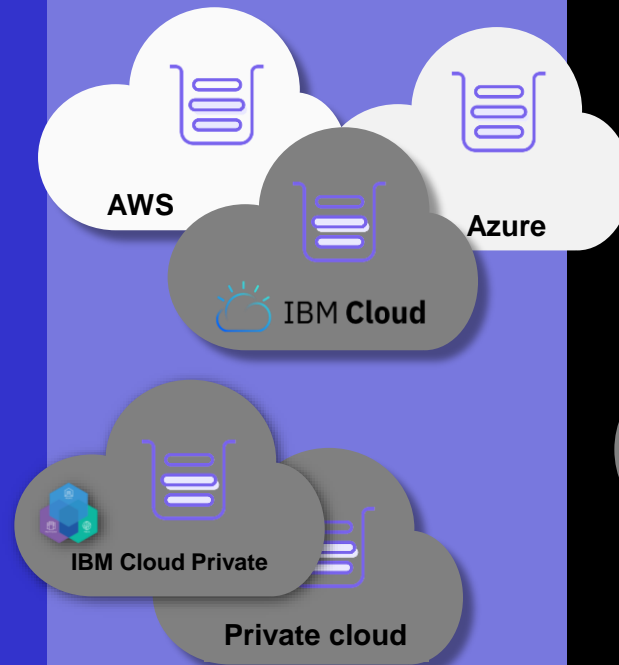
Run IBM MQ in any location or cloud exactly as you need it



On-premise, software and the MQ Appliance



Run it yourself in any cloud, public or private



Let IBM host it for you with its new managed MQ service in IBM Cloud



Introducing the MQ Cloud service

Provision queue managers directly into IBM Cloud

IBM owns the infrastructure and the responsibility to keep the systems running

The customer owns the application-level configuration and the monitoring



Configured & monitored by the **customer**

Queues, topics, channels, clustering, applications

Managed & operated by **IBM**

MQ installation, basic configuration, security, maintenance

Hardware, virtualization, servers, network, storage

Division of responsibility based on form factor

On-premises software MQ	MQ in IBM Cloud Private	MQ Appliance	BYOL Cloud IaaS install	MQ on Cloud service
Application	Application	Application	Application	Application
Clustering	Clustering	Clustering	Clustering	Clustering
Q / Msg monitoring	Q / Msg monitoring	Q / Msg monitoring	Q / Msg monitoring	Q / Msg monitoring
Queues, Topics	Queues, Topics	Queues, Topics	Queues, Topics	Queues, Topics
QM failover	QM failover	QM failover	QM failover	QM failover
QM availability/restart	QM availability/restart	QM availability/restart	QM availability/restart	QM availability/restart
MQ patching	MQ patching	MQ patching	MQ patching	MQ patching
OS patching	OS patching	OS patching	OS patching	OS patching
System monitoring	System monitoring	System monitoring	System monitoring	System monitoring
Virtual machine	Virtual machine	Virtual machine	Virtual machine	Virtual machine
Hypervisor	Hypervisor	Hypervisor	Hypervisor	Hypervisor
Storage	Storage	Storage	Storage	Storage
Servers	Servers	Servers	Servers	Servers
Networking	Networking	Networking	Networking	Networking
Data centre	Data centre	Data centre	Data centre	Data centre

Customer

IBM / Vendor

IBM Cloud Catalog Docs Support Manage

All Categories Filter

Infrastructure

- Compute
- Storage
- Network
- Security
- Containers
- VMware

Platform

- Boilerplates
- APIs
- Application Services
- Blockchain
- Cloud Foundry Apps
- Data & Analytics
- DevOps
- Functions
- Integrate
- Internet of Things
- Mobile
- Security
- Watson

All Categories Search Filter

Infrastructure

Compute

Build your virtual environments.

Bare Metal Server

Bare metal servers provide the raw horsepower for more demanding workloads.

Virtual Server

Our virtual servers deliver a higher degree of transparency, predictability, and automatic scaling.

Storage

Order storage.

Block Storage

Persistent iSCSI based storage with high-powered performance and capacity up to 100TB.

File Storage

Fast and flexible NFS-based file storage with capacity options from 20GB to 12TB.

Object Storage

Provides flexible, cost-effective, and scalable cloud storage for unstructured data.

Network

Order network.

Find IBM MQ in the “Integrate” section of the IBM Cloud catalog

Getting started

Manage

Integrate /

 MQ-demo

Resource Group: default Location: US South

Queue managers

User permissions

Application permissions

Create

No queue managers... yet

Why not use our interactive guide to quickly get up and running with your first queue manager.



Guided tour

Step 1 of 3



Introductory guide

Welcome! To help you get up and running this guide takes you through the following steps:

1. Create a queue manager
2. Connect a demo application
3. Launch the MQ Console

Get started

Get started in minutes with the interactive guided tour

Getting started

Manage

Integrate /

MQ-demo

Resource Group: default

Location: US South

Create queue manager

Size

Select the Trial queue manager size

Paid options in sizes to suit typical workloads

Free Trial so you can get started at no cost

T

Trial

Perfect for trying out the service. Valid for 30 days.

Approximately 200 messages per second and 20 concurrent connections.

Free

S

Small

Appropriate for light workloads such as supporting an individual department or application.

Approximately 200 messages per second and 50 concurrent connections.

\$1.30 per hour
1 x VPC-hour price

M

Medium

Appropriate for shared use by a number of light to moderate workload applications.

Approximately 1000 messages per second and 200 concurrent connections.

\$5.20 per hour
4 x VPC-hour price

L

Large

Appropriate for heavy throughput scenarios where transaction performance is critical.

Approximately 2500 messages per second and 1000 concurrent connections.

\$15.60 per hour
12 x VPC-hour price



Create a queue manager

Step 1 of 3


Select the size

Selecting the right size queue manager will help you get the appropriate performance for your scenario.

For this guide, select the **Trial** queue manager as it is free and will expire after 30 days.

Quickly provision messaging capability in the Cloud

Integrate /

 MQ-demo

Resource Group: default

Location: US South

Queue managers

User permissions

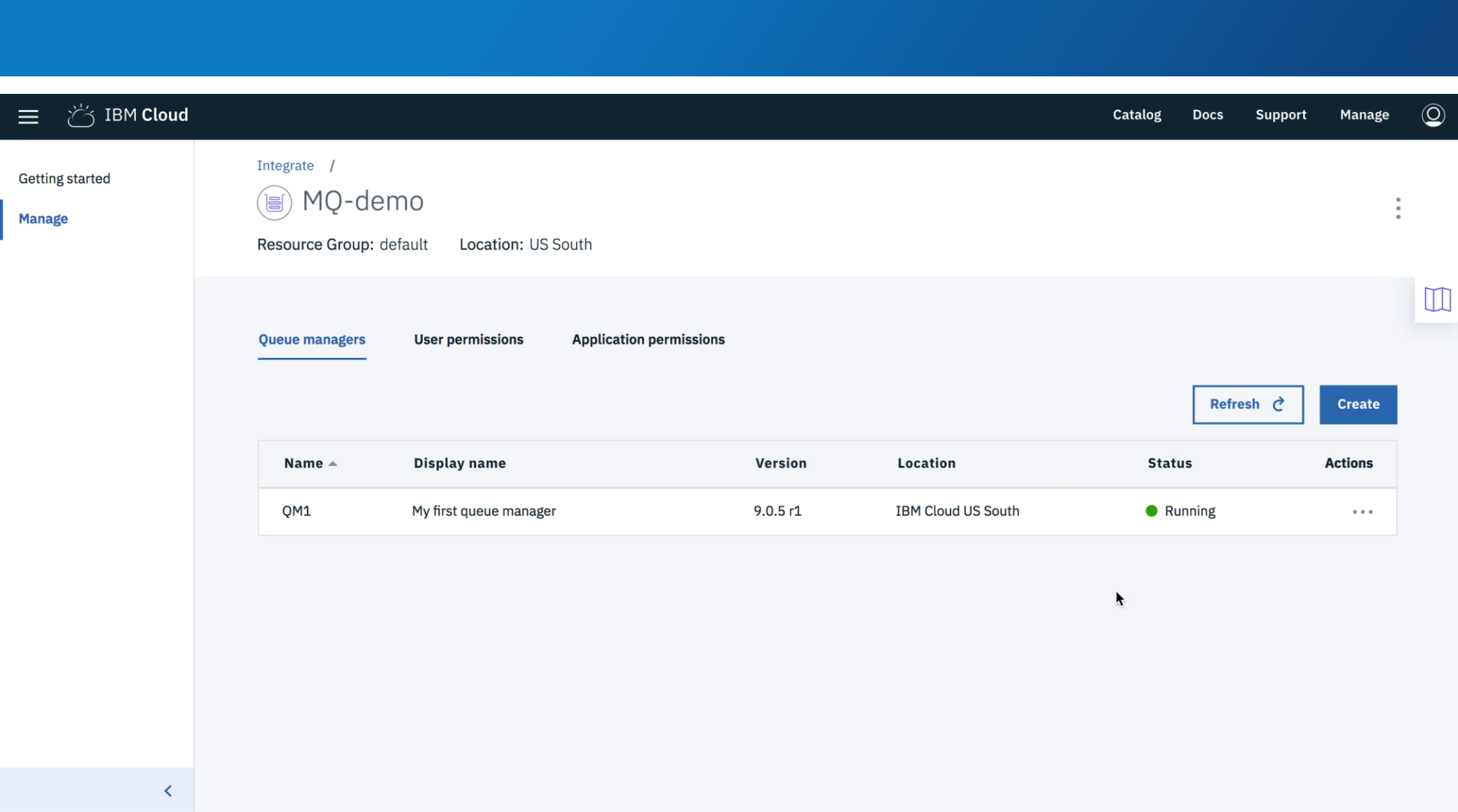
Application permissions

Refresh ↻

Create

Name ▲	Display name	Version	Location	Status	Actions
QM1	My first queue manager	9.0.5 r1	IBM Cloud US South	<div></div> Deploying	...

Up and running in minutes!



Up and running in minutes!



Getting started

Manage

Integrate /

MQ-demo

Resource Group: default Location: US South



Queue managers

User permissions

Application permissions

Refresh ↻


Create

Name ▲	Display name	Version	Location	Status	Actions
QM1	My first queue manager	9.0.5 r1	IBM Cloud US South	● Running	...



Integrated User and Application management, backed by IBM Cloud

Integrate /

MQ-demo

Resource Group: defaultLocation: US South

Queue managers

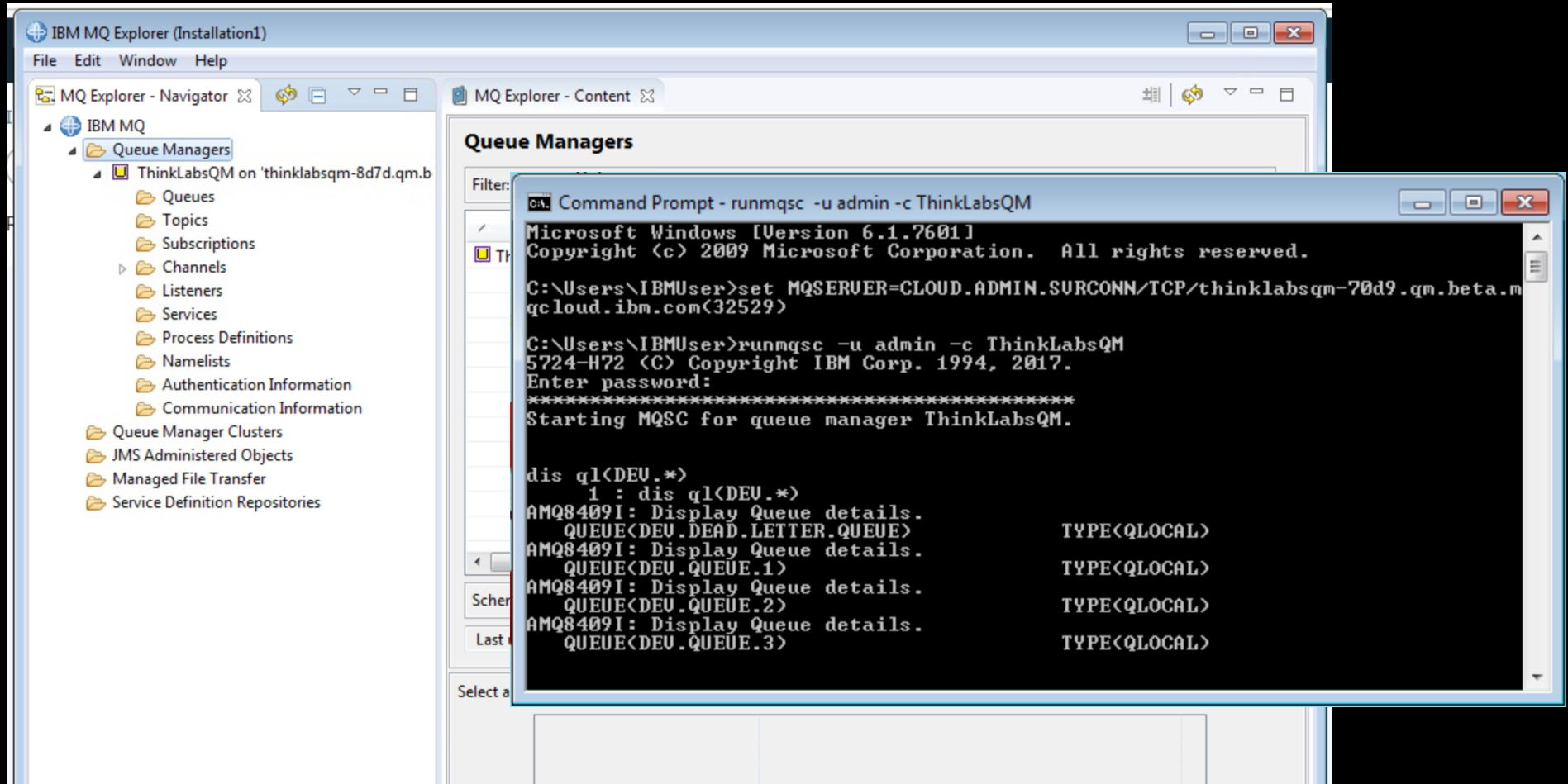
User permissions

Application permissions

Add application

Name ▲	MQ username	Description	Actions
ibm demo app	ibmdemoapp		...

Manage MQ using the integrated MQ Console in your browser



... or using familiar tools like MQ Explorer and runmqsc

Agenda

- Introduction to the MQ Cloud service
- Mini demo
- **New features**
 - TLS
 - AMS
- New deployment options

Configuring trust store TLS certificates

The screenshot displays the IBM Cloud console interface for configuring an MQ resource. The main navigation bar includes 'Catalog', 'Docs', 'Support', and 'Manage'. The left sidebar shows 'Getting started' and 'Manage'. The main content area is titled 'Integrate / MQ' and 'My MQ', with 'Resource group: default' and 'Location: US South'.

A modal dialog titled '1. Import certificates' is centered on the screen. It contains the text: 'Simply import all files relating to the certificate; route, intermediary, etc. Accepted file types are X, Y and Z.' Below this text is a 'Browse files' button, which is highlighted with a blue circle. At the bottom of the modal, there is a progress indicator showing '1' of 2 steps, and a 'Next' button.

In the background, the 'QM1' resource is shown as 'Running'. Below the resource name, there are tabs for 'Details' and 'Logs & diag'. A table lists several applications with checkboxes: App17, C34, C42, S65, S90, and ZoningApp. To the right of the table, there is a 'Trusted' column with toggle switches for each application.

Configuring trust store TLS certificates

The screenshot displays the IBM Cloud MQ console interface. At the top, the navigation bar includes the IBM Cloud logo, 'Catalog', 'Docs', 'Support', and 'Manage' links. The left sidebar shows 'Getting started' and 'Manage' options. The main content area is titled 'Integrate / MQ' and 'My MQ', with 'Resource group: default' and 'Location: US South'.

Below the main title, there's a section for 'QM1' with a 'Running' status. A modal dialog box titled '1. Import certificates' is open in the center. The dialog contains the text: 'Simply import all files relating to the certificate; route, intermediary, etc. Accepted file types are X, Y and Z.' Below this text is a 'Browse files' button and a status '3 files attached'. At the bottom of the dialog are 'Back' and 'Next' buttons, along with a progress indicator showing step 1 of 2.

In the background, a table of certificates is visible. It has columns for 'Label' and 'Trusted'. The 'Label' column lists 'App17', 'C34', 'C42', 'S65', 'S90', and 'ZoningApp'. The 'Trusted' column shows toggle switches for each label, with 'App17', 'C34', 'S65', 'S90', and 'ZoningApp' being turned on, and 'C42' being turned off.

Configuring trust store TLS certificates

The screenshot displays the IBM Cloud console interface for configuring an MQ resource. The top navigation bar includes the IBM Cloud logo and links for Catalog, Docs, Support, and Manage. The left sidebar shows 'Getting started' and 'Manage' options. The main content area is titled 'Integrate / MQ' and 'My MQ', with 'Resource group: default' and 'Location: US South'.

The resource 'QM1' is shown as 'Running'. The 'Trust Store' tab is selected, displaying a table of certificates. A modal dialog titled '2. Label the certificate' is open, showing a 'Label' field with the text 'Replacement cert'. The dialog includes a 'Back' button and a 'Finish' button. The background table lists certificates with checkboxes for selection and 'Trusted' toggle switches.

Label	Trusted
<input type="checkbox"/> App17	<input checked="" type="checkbox"/>
<input type="checkbox"/> C34	<input checked="" type="checkbox"/>
<input type="checkbox"/> C42	<input type="checkbox"/>
<input type="checkbox"/> S65	<input checked="" type="checkbox"/>
<input type="checkbox"/> S90	<input checked="" type="checkbox"/>
<input type="checkbox"/> ZoningApp	<input checked="" type="checkbox"/>

Configuring trust store TLS certificates

IBM Cloud

Integrate / MQ

My MQ

Resource group: default Location: US South

← QM1 ● Running

Details Logs & diagnostics Administration Key Store Trust Store Import certificate

Label	Days to expiry	Trusted
<input type="checkbox"/> App17	32	<input checked="" type="checkbox"/>
<input type="checkbox"/> C34	17	<input checked="" type="checkbox"/>
<input type="checkbox"/> C42	141	<input type="checkbox"/>
<input type="checkbox"/> Replacement cert	724	<input checked="" type="checkbox"/>
<input type="checkbox"/> S65	321	<input checked="" type="checkbox"/>
<input type="checkbox"/> S90	578	<input checked="" type="checkbox"/>
<input type="checkbox"/> ZoningApp	899	<input checked="" type="checkbox"/>

Configuring trust store TLS certificates

IBM Cloud

Catalog Docs Support Manage

Getting started

Manage

Integrate / MQ

My MQ

Resource group: default Location: US South

← QM1 ● Running

Details

Logs & diagnostics

Administration

Key Store

Trust Store

Import certificate

<input type="checkbox"/>	App17	32	<input checked="" type="checkbox"/>
<input type="checkbox"/>	C34	17	<input checked="" type="checkbox"/>
<div><div><div>Days to expiry</div><div>C34</div></div><div><div>Expires</div><div>27-Jun-18</div></div></div> <div><div><div>Issued</div><div>27-Jun-18</div></div><div><div>Issuer</div><div>DigiCert</div></div></div> <div><div><div>Fingerprint</div><div>00:1A:2A:4C</div></div><div><div>DN</div><div>CN=RUB, O=IBM</div></div></div> <div><div><div>CN</div><div>#####</div></div><div><div>Domain</div><div>##### ##### #####...</div></div></div> <div><div>Download public certificate</div><div>Copy details</div></div>			
<input type="checkbox"/>	C43	141	<input type="checkbox"/>
<input type="checkbox"/>	S65	321	<input checked="" type="checkbox"/>
<input type="checkbox"/>	S90	578	<input checked="" type="checkbox"/>
<input type="checkbox"/>	ZoningApp	899	<input checked="" type="checkbox"/>

Configuring key store TLS certificates

The screenshot displays the IBM Cloud MQ console interface. At the top, the navigation bar includes the IBM Cloud logo and links for Catalog, Docs, Support, and Manage. The left sidebar shows 'Getting started' and 'Manage' options. The main content area is titled 'Integrate / MQ' and 'My MQ', with 'Resource group: default' and 'Location: US South'.

Below the title, there's a status bar showing 'QM1' and 'Running'. A tabbed interface includes 'Details', 'Logs & diagnostics', 'Administration', 'Key Store' (selected), and 'Trust Store'. An 'Import certificate' button is located in the top right of the 'Key Store' tab.

A descriptive text states: 'Certificates in the key store can be used to setup Transport Layer Security (TLS) for the queue manager or specific channels and to setup message data encryption using Queue Manager AMS.'

The certificate list shows 4 certificates, with 2 in use. A filter dropdown is set to 'Select channel...'. The list includes:

- Default: IBM-S1**: In use: Queue Manager. Days to expiry: 1095. Expires: 15-Aug-21. Includes a 'Copy details' button.
- CA-2**: In use: Channel. Days to expiry: 289. Expires: 29-Apr-19. Includes a 'Copy details' button and a 'Show more' link.
- CA-1**: Not in use.
- QM1-S50**: Expired.

Configuring key store TLS certificates

IBM Cloud

Integrate / MQ

My MQ

Resource group: default Location: US South

4 Certificates 2 in use

Filter certificates by channel: SELECT CHANNEL...

Getting started Manage

Default: IBM-S1
In use: Queue Manager

Days to expiry
1095

Expires
15-Aug-21

Copy details

CA-1
Not in use

Days to expiry
29

Expires
27-Aug-20

Copy details

Show more

CA-2
In use: Channel

Days to expiry
863

Expires
03-Apr-20

Issued
03-Apr-18

Issuer
GoDaddy

Fingerprint
00:7R:1F:4T

DN
CN=RUB, O=IBM

CN
#####

Domain
#####

Copy details

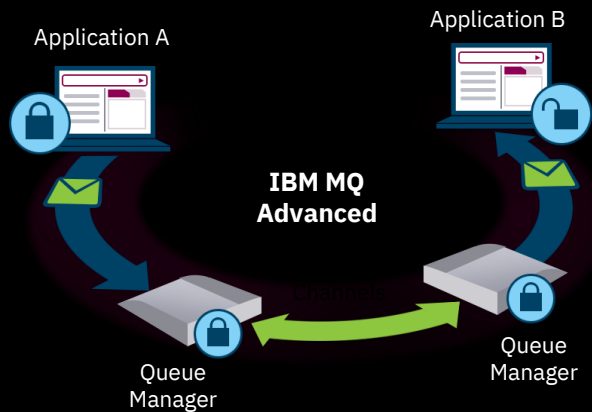
Show less

QM1-S50

End-to-end message level security

- MQ Advanced Message Security (AMS) provides the capability to encrypt messages in transit and at rest between sender and receiver.

1. Automatically encrypted by the sending client so that it can only be decrypted by the intended recipient
2. Or encrypted by the queue manager on receipt, for cases where the application deployment cannot be updated



- Benefits
 - No application code changes required
 - Goes beyond TLS channel security, which only protects data in transit between processes
 - Message data can only be read by the intended receiving application code
 - Not on the queue by the system administrator
 - Not on the disk by your infrastructure or cloud provider
 - Proven, trusted approach to fulfilling compliance requirements such as GDPR, PCI, HIPAA etc

Configuring key store TLS certificates, incl AMS

The screenshot displays the IBM Cloud My MQ console interface. The top navigation bar includes the IBM Cloud logo and links for Catalog, Docs, Support, and Manage. The left sidebar shows 'Getting started' and 'Manage' options. The main content area is titled 'Integrate / MQ' and 'My MQ', with 'Resource group: default' and 'Location: US South'.

Below the header, there's a summary of certificates: '4 certificates' and '2 in use'. A filter dropdown is set to 'Select channel...'. Two certificate cards are visible:

- Default: IBM-S1**: In use: Queue Manager. Days to expiry: 1095. Expires: 15-Aug-21. A 'Copy details' button is present.
- CA-1**: Not in use. Days to expiry: 29. Expires: 27-Aug-20. A 'Copy details' button is present.

A modal window titled 'Manage CA-2' is open, showing configuration options:

- Use this certificate for TLS:** (checked) with options for 'Queue manager' and 'Select channel(s)' (2 channels selected).
- Use this certificate for Queue Manager AMS:** (unchecked) with a 'Select channel(s)' dropdown showing 'Selection required...'.

At the bottom of the modal, there's a progress indicator with steps 1 and 2, and 'Cancel' and 'Next' buttons.

Configuring key store TLS certificates, incl AMS

IBM Cloud

Integrate / MQ

My MQ

Resource group: default Location: US South

4 certificates 2 in use

Filter certificates by channel: Select channel...

Default: IBM-S1
In use: Queue Manager

Days to expiry
1095

Expires
15-Aug-21

Copy details

CA-1
Not in use

Days to expiry
29

Expires
27-Aug-20

Copy details

Show more

Manage CA-2

Delete Manage Download public certificate

☒ Use this certificate for TLS:

☐ Queue manager

☒ Select channel(s)

2 channels selected

☒ Use this certificate for Queue Manager AMS:

Select channel(s)

2 channels selected

☒ A channel with a very long name

☐ Another channel

☒ One more channel

Cancel Next

Introducing the MQ Cloud service

Run IBM MQ in any location or cloud exactly as you need it



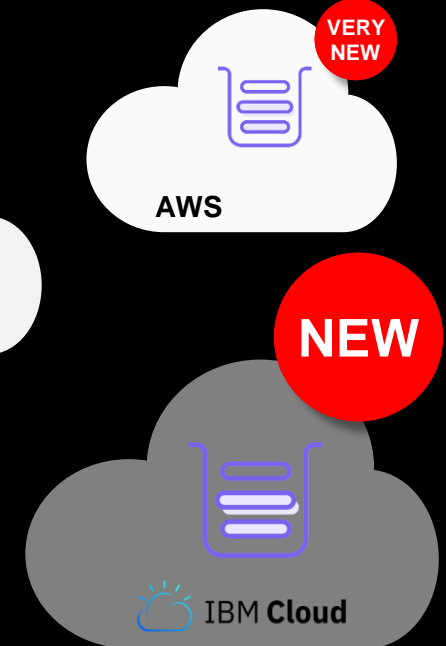
On-premise, software and the MQ Appliance



Run it yourself in any cloud, public or private



Let IBM host it for you with its new managed MQ service in IBM Cloud



Deploying a queue manager to AWS

MQ on Cloud –
Queue managers can now
be provisioned on
infrastructure in
IBM Cloud and AWS
ensuring that MQ is
where you need it most –
close to your applications

← Create queue manager

Size

T Trial Perfect for trying out the service. Valid for 30 days. Approximately 200 messages per second and 20 concurrent connections. Free	S Small Appropriate for light workloads such as supporting an individual department or application. Approximately 200 messages per second and 50 concurrent connections. \$1.30 per hour 1 x VPC-hour price	M Medium Appropriate for shared use by a number of light to moderate workload applications. Approximately 1000 messages per second and 200 concurrent connections. \$5.20 per hour 4 x VPC-hour price	L Large Appropriate for heavy throughput scenarios where transaction performance is critical. Approximately 2500 messages per second and 1000 concurrent connections. \$15.60 per hour 12 x VPC-hour price
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[Learn more about how we define the queue manager sizes, suggested use and throughput](#)

Details

Queue manager name*

Display name

Location

IBM Cloud: US South

IBM Cloud: US South

AWS Cloud: US East 1

Location

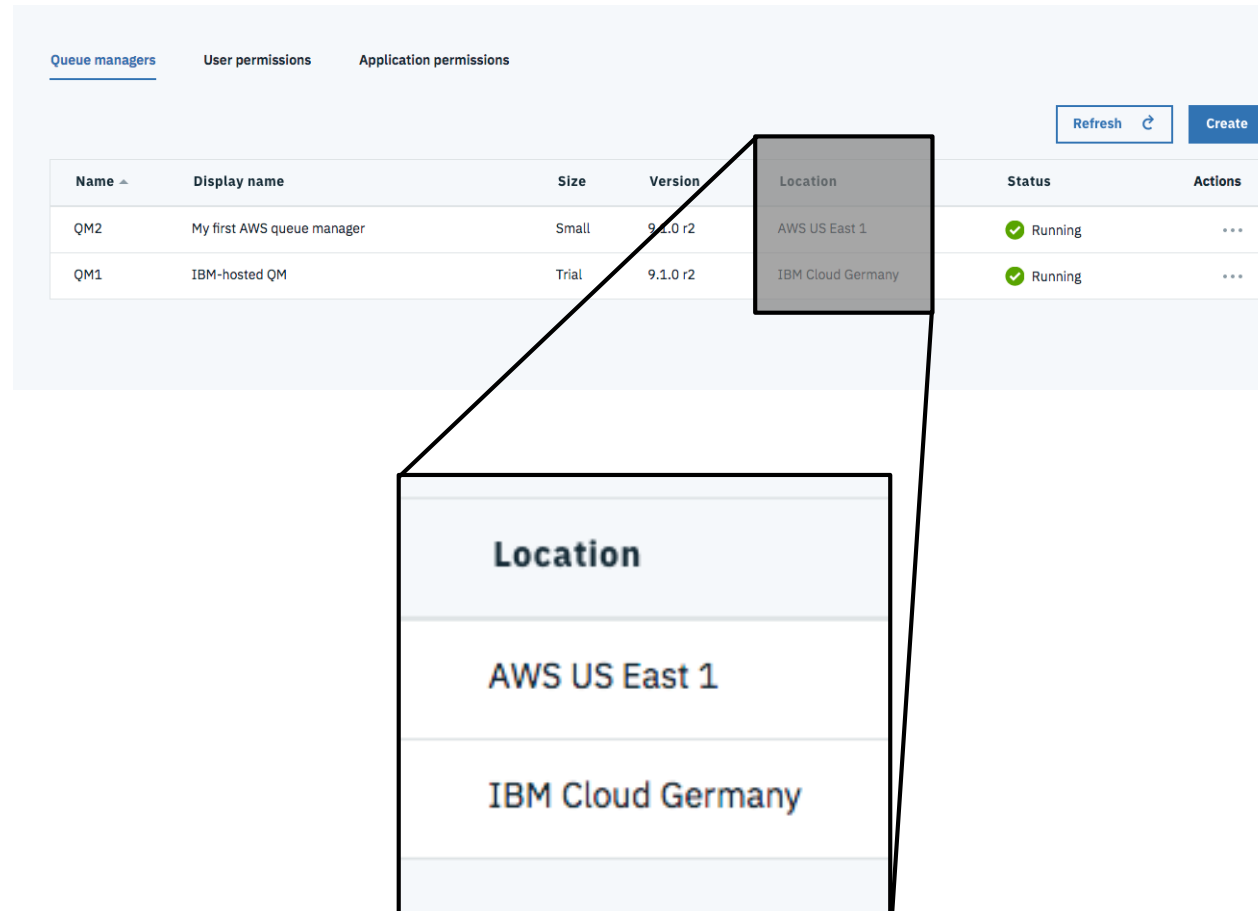
IBM Cloud: US South

IBM Cloud: US South

AWS Cloud: US East 1

Managing a queue manager to AWS

All queue managers on IBM Cloud and AWS can be managed from one place in the MQ on Cloud service.



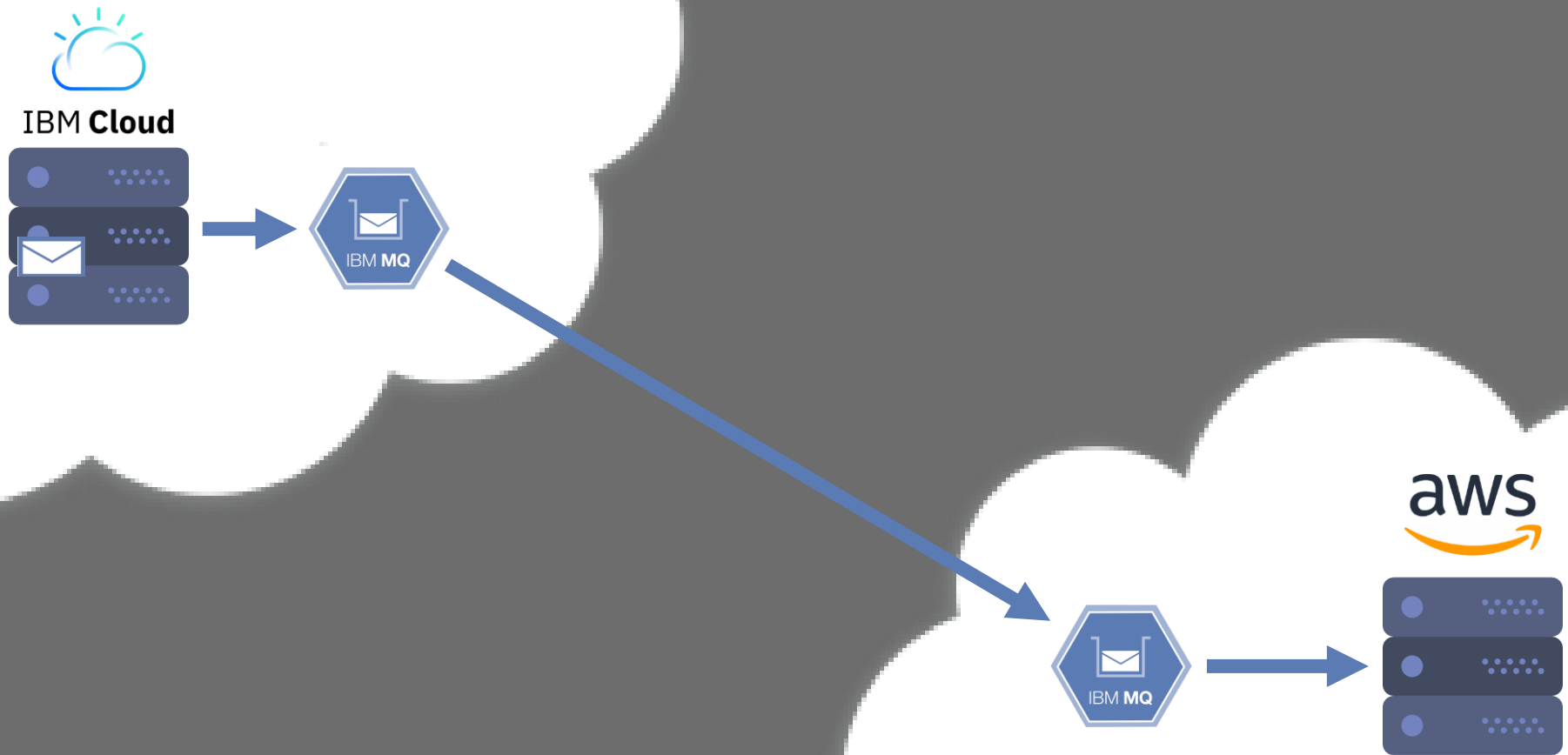
The screenshot displays the 'Queue managers' tab in the IBM MQ on Cloud console. It features a table with columns for Name, Display name, Size, Version, Location, Status, and Actions. Two queue managers are listed: QM2 (My first AWS queue manager, Small, 9.1.0 r2, AWS US East 1, Running) and QM1 (IBM-hosted QM, Trial, 9.1.0 r2, IBM Cloud Germany, Running). A callout box highlights the 'Location' column, showing a dropdown menu with options 'AWS US East 1' and 'IBM Cloud Germany'.

Name	Display name	Size	Version	Location	Status	Actions
QM2	My first AWS queue manager	Small	9.1.0 r2	AWS US East 1	Running	...
QM1	IBM-hosted QM	Trial	9.1.0 r2	IBM Cloud Germany	Running	...

Location

AWS US East 1

IBM Cloud Germany



Using IBM MQ to reliably transfer data between different cloud providers

IBM MQ

Default Dashboard

Queues on QM_IBM

Name	Queue type	Queue depth
DEV.QUEUE.2	Local	0
DEV.QUEUE.3	Local	0
STOCK	Local	0
STOCK.REPL	Remote	0
TO.AWS	Local	0

Total: 7Last updated: 3:16:49 PM

Topics on QM_IBM

Name	Topic String
DEV.BASE.TOPIC	dev/

Total: 1Last updated: 3:16:31 PM

Channels on QM_IBM

Name	Type	Overall channel
AWS.TO.IBM	Receiver	Running
CLOUD.ADMIN	Server-connec	Running

Channel Authentica...

Channel profile	Type
*	Address Map
*	Block User List

IBM MQ

Default Dashboard

Browse messages on 'STOCK.REPLY'

This dialog will show the first 1000 messages, displaying up to 1024 characters of each message.

Timestamp	Text
Aug 9, 2018 3:16:48 PM	Hello from IBM!

Total: 1Last updated: 3:17:03 PM

Close

The MQ on IBM Cloud service

IBM MQ that you know and trust
... but in a managed Cloud service!

Try the service for free at:
console.bluemix.net/catalog/services/mq



Thank You - Questions?



Related sessions:

- Running MQ in the Cloud
 - Monday 1.00pm (Leopardwood)
 - Tuesday 8.30am (Leopardwood)
- Running MQ in Containers
 - Monday 3.45pm (Leopardwood)
 - Tuesday 1.00pm (Leopardwood)
- MQ Hybrid Cloud Architectures
 - Tuesday 9.45am (Sagewood)
 - Wednesday 9.45am (Sagewood)

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