

# ***MQ Set UserID for z/OS Installation and Operation Manual***



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# 1 Introduction

## 1.1 Overview

*MQ Set UserID for z/OS* (z/MQSUI) provides the ability to explicitly set a UserID via a MQ Channel's Send, Receive or Message Exit.

z/MQSUI operates with IBM MQ v5.3.1, v6.0, v7.0, v7.1, v8.0, v9.0, v9.1 and v9.2 for z/OS environments. It operates with Sender, Receiver, Server, Requester, Cluster-Sender, Cluster-Receiver, Server Connection and Client Connection channels of the MQ queue managers.

How to specify the UserID that z/MQSUI will set in the message's MQMD UserIdentifier field:

- If a value is set in the SNDDATA, RCVDATA or MSGDATA field (i.e. u=roger) then that value will be used
- If the SNDDATA, RCVDATA or MSGDATA field is blank then z/MQSUI will use the UserID specified in the channel's MCAUSER field
- If the SNDDATA, RCVDATA or MSGDATA field is blank and the channel's MCAUSER field is blank then z/MQSUI will use the value specified in the IniFile (i.e. UserID=roger)
- If z/MQSUI cannot find a value in any of those fields then z/MQSUI will stop the channel and output an error message in the z/MQSUI logfile.

z/MQSUI is a simple drop-in solution. z/MQSUI can be configured as a channel's Send, receive or message exit.

The z/MQSUI solution is licensed as '*Licensed As Free*' meaning a user can freely download the software and use it (i.e. Same as how IBM licenses MQ Client software.). If the user wants support for z/MQSUI then they can purchase a support subscription from Capitalware.

## 1.2 Executive Summary

The z/MQSUI solution is an MQ Receive and Message exit.

Major Features of z/MQSUI:

- Easy to set up and configure
- No application changes required
- Can be configured as either queue manager to queue manager or client application to queue manager solution
- Standard MQ feature, GET-with-Convert, is supported
- Provides high-level logging capability

## **1.3 Prerequisites**

This section details the minimum supported software levels. These prerequisites apply to both client-side and server-side installations of MQ Set UserID for z/OS.

### **1.3.1 Operating System**

MQ Set UserID for z/OS can be installed on any of the following supported servers:

#### **1.3.1.1 IBM z/OS**

- IBM z/OS v1.4 or higher

#### **1.3.2 IBM MQ**

- IBM MQ for z/OS v5.3.1, v6.0, v7.0, v7.1, v8.0, v9.0, v9.1 and v9.2

## 2 Installing MQ Set UserID for z/OS

This section describes how to install Capitalware's MQ MQ Set UserID for z/OS.

### 2.1 Server-side Security Exit

The following files are the platform specific server-side security exits and the required initialization file (IniFile).

#### 2.1.1 z/OS Installation

To install the MQSUI for z/OS, first unzip the **mq sui\_zos-setup.zip**. The zip file contains 2 z/OS XMIT prepared datasets.

- **MQSUI.LOAD.ZOS** is the XMIT dataset that contains the z/OS load-module.
- **MQSUI.SYSIN.ZOS** is the XMIT dataset that contains a sample initialization file for the server-side security exit and sample MQSC script to define MQ channels with the security exits.

Steps to install the server-side security exit:

1. ftp the z/OS XMIT prepared datasets to the z/OS LPAR.

```
ftp -s:mq sui.ftp z/OS_hostname
```

```
your-z/OS-userid  
your-z/OS-password  
  
binary  
quote SITE recfm=fb lrecl=80 blksize=3120  
put MQSUI.LOAD.ZOS  
put MQSUI.SYSIN.ZOS  
quit
```

If the user receives the following error message then they will need to pre-allocate the z/OS datasets:

```
ftp> put MQSUI.LOAD.ZOS  
200 Port request OK.  
550-SVC99 RETURN CODE=4 S99INFO=0 S99ERROR=38656 HEX=9700 S99ERSN code X'000003F3'.  
550 Unable to create data set xxxxx.MQSUI.LOAD.ZOS for STOR command.  
ftp> put MQSUI.SYSIN.ZOS  
200 Port request OK.  
550-SVC99 RETURN CODE=4 S99INFO=0 S99ERROR=38656 HEX=9700 S99ERSN code X'000003F3'.  
550 Unable to create data set xxxxx.MQSUI.SYSIN.ZOS for STOR command.
```

To pre-allocating the XMIT datasets go to option 3.2 of ISPF and allocate both datasets: MQSUI.LOAD.ZOS and MQSUI.SYSIN.ZOS.

Use the following dataset attributes when allocating both datasets:

Space	
Units	BLOCKS
Primary Quantity	40
Secondary Quantity	40
Directory Blocks	0
DCB Parameters	
RECFM	FB
LRECL	80
BLKSIZE	3120
DsnType	Blank

After the user has pre-allocated the datasets, they can redo the ftp commands.

2. Log on to z/OS LPAR and issue the following TSO RECEIVE commands:

```
TSO RECEIVE INDATASET(MQSUI.LOAD.ZOS)
TSO RECEIVE INDATASET(MQSUI.SYSIN.ZOS)
```

After issuing the above commands, the following product datasets will appear:

- **+HLQ+.CPTLWARE.MQSUI.LOAD** is the dataset that contains the z/OS load-module.
- **+HLQ+.CPTLWARE.MQSUI.SYSIN** is a dataset that contains a sample initialization file for the server-side security exit and sample MQSC script to define MQ channels with the security exits.

## 2.1.2 z/MQSUI DataSets

z/MQSUI solution is comprised of 2 datasets: +HLQ+.CPTLWARE.MQSUI.LOAD and +HLQ+.CPTLWARE.MQSUI.SYSIN.

### 2.1.2.1 +HLQ+.CPTLWARE.MQSUI.LOAD

- **MQSUI** is the actual security exit z/OS load-module that will be invoked by the MQ Server component.

### 2.1.2.2 +HLQ+.CPTLWARE.MQSUI.SYSIN

- **MQSUIINI** is a sample initialization file for the server-side security exit.
- **MQSUI MQSC** is a sample MQSC script to define MQ channels with the security exits.

### 2.1.3 z/OS CHIN JCL

This section describes the required JCL for z/MQSUI.

#### 2.1.3.1 CSQXLIB DDName

The MQSUI load-module needs to be put in the executable path for the CHINIT started-task. There are 2 options for achieving this:

1. Add the dataset to the CSQXLIB concatenation of the CHINIT's CSQXLIB.

```
//CSQXLIB DD DISP=SHR,DSN=+MQHLQ+. +QMGRNAME+.USERAUTH  
// DD DISP=SHR,DSN=+HLQ+.CPTLWARE.MQSUI.LOAD
```

2. Or copy the MQSUI load-module to your existing MQ exit / link-edited parameter dataset. Here is a sample JCL to copy the MQSUI load-module:

```
//COPY1 EXEC PGM=IEBCOPY,REGION=1024K  
//SYSPRINT DD SYSOUT=*  
//SYSUT3 DD DSN=&&SYSUT3,UNIT=SYSDA,DISP=(,DELETE),  
// SPACE=(CYL,(5,1))  
//SYSUT4 DD DSN=&&SYSUT4,UNIT=SYSDA,DISP=(,DELETE),  
// SPACE=(CYL,(5,1))  
//*  
//IN DD DISP=SHR,DSN=+HLQ+.CPTLWARE.MQSUI.LOAD  
//*  
//OUT DD DISP=SHR,DSN=+MQHLQ+. +QMGRNAME+.USERAUTH  
//*  
//SYSIN DD *  
COPYMOD OUTDD=OUT,INDD=((IN,R))  
S M=MQSUI  
/*
```

#### 2.1.3.2 MQSUIIN DDName

MQSUIIN is the DDName that points to a dataset containing the IniFile parameters.

Add the following line to the CHINIT's JCL.

```
//MQSUIIN DD DISP=SHR,DSN=+HLQ+.CPTLWARE.MQSUI.SYSIN(MQSUIINI)
```

### 3 Configuring QMgr to QMgr Channels

This section describes how to configure the exit. By default, z/MQSUI will use the UserID specified in the channel's MCAUSER field.

Optional, configuration parameters can be specified in the MSGDATA attribute field.

- MSGDATA

**U=roger**

Where 'roger' is the UserID to be written to each messages MQMD UserID field.

**D=Y**

Where 'Y' enables LogMode of Debug.

Note: Use a semicolon to separate the z/MQSUI parameters in the MSGDATA attribute field.

***Note: Message Exit Data must NOT exceed 32 characters.***

## 3.1 Receiver Channel

This section describes the necessary entries to enable the exit. The MQ Administrator will need to update 2 fields of the RECEIVER Channel that the exit will be applied to.

### 3.1.1 z/OS

On z/OS, MSGEXIT and MSGDATA will contain the following values assuming a default install.

- MSGEXIT  
  **MQSUI**

```
DEFINE CHANNEL( 'MQB1.TO.MQA1' ) CHLTYPE( RCVR ) +  
  TRPTYPE( TCP ) +  
  MSGEXIT( 'MQSUI' ) +  
  MSGDATA( 'u=roger' ) +  
  REPLACE
```

## 3.2 Requester Channel

This section describes the necessary entries to enable the exit. The MQ Administrator will need to update 2 fields of the REQUESTOR Channel that the exit will be applied to.

### 3.2.1 z/OS

On z/OS, MSGEXIT and MSGDATA will contain the following values assuming a default install.

- MSGEXIT  
  **MQSUI**

```
DEFINE CHANNEL( 'MQB1.TO.MQA1' ) CHLTYPE( RQSTR ) +  
  TRPTYPE( TCP ) +  
  MSGEXIT( 'MQSUI' ) +  
  MSGDATA( 'u=roger' ) +  
  REPLACE
```

### 3.3 Cluster Receiver Channel

This section describes the necessary entries to enable the exit. The MQ Administrator will need to update 2 fields of the CLUSRCVR Channel that the exit will be applied to.

#### 3.3.1 z/OS

On z/OS, MSGEXIT and MSGDATA will contain the following values assuming a default install.

- MSGEXIT  
  **MQSUI**

```
DEFINE CHANNEL( 'MQB1.TO.MQA1' ) CHLTYPE(CLUSRCVR) +  
  TRPTYPE( TCP ) +  
  MSGEXIT( 'MQSUI' ) +  
  MSGDATA( 'u=roger' ) +  
  REPLACE
```

## 4 Configuring SVRCONN Channels

This section describes how to configure the exit.

For normal operation of the z/MQSUI solution, configuration parameters can be specified in the SENDDATA and RCVDATA attribute fields.

- SENDDATA
- RCVDATA

### **U=roger**

Where 'roger' is the UserID to be written to each messages MQMD UserID field.

### **D=Y**

Where 'Y' enables LogMode of Debug.

Note: Use a semicolon to separate the z/MQSUI parameters in the SENDDATA and RCVDATA attribute fields.

***Note: Send and Receive Exit Data must NOT exceed 32 characters.***

## 4.1 Server Connection Channel

This section describes the necessary entries to enable the server-side exit. The MQ Administrator will need to update 2 fields of the SVRCONN Channel that the server-side exit will be applied to.

### 4.1.1 z/OS

On z/OS, SENDEXIT, SENDDATA, RCVEXIT and RCVDATA will contain the following values assuming a default install.

- SENDEXIT  
**MQSUI**
- RCVEXIT  
**MQSUI**

```
DEFINE CHANNEL ('MQA1.APP.CH01') CHLTYPE(SVRCONN) +  
  TRPTYPE(TCP) +  
  RCVEXIT('MQSUI') +  
  RCVDATA('u=roger') +  
  REPLACE
```

## 5 IniFile Keywords

### 5.1 Logging

This section describes the necessary entries to enable z/MQSUI to write log information. To enable and control logging, you need 3 keywords in the IniFile:

- **LogMode** specifies what type of logging the user wishes to have. LogMode supports 4 values [Q / N / V / D] where Q is Quiet, N is Normal, V is Verbose and D is Debug. The default value is Q.
- **LogFile** LogFile specifies the location of the log file. The default is as follows:

For z/OS:

**LogFile=SYSPRINT**

### 5.2 UserID

Specifying a UserID in the IniFile is optional.

- **UserID** specifies the UserID to be set in the message's MQMD UserId field.

## 6 Appendix A – mq sui.ini file

The sample IniFile below is the mq sui.ini file supplied for Windows. The IniFile supports the following keywords and their values:

```
LogMode=N  
LogFile=SYSPRINT
```

**Note: Keywords are case sensitive.**

Keyword	Description of Server-side keywords
LogFile	<b>LogFile</b> specifies the location of the log file. The default is as follows:  For z/OS: LogFile=SYSPRINT
LogMode	<b>LogMode</b> specifies what type of logging the user wishes to have. LogMode supports 4 values [Q / N / V / D] where Q is Quiet, N is Normal, V is Verbose and D is Debug. The default value is Q.  e.g. LogMode=Q
UserID	<b>UserID</b> specifies the UserID to be set in the message's MQMD UserId field.  e.g. UserID=fred

## 7 Appendix B – z/MQSUI Upgrade Procedures

To upgrade an existing installation of z/MQSUI from an older version to a newer version, do please do the following in the appropriate section below.

1. Stop all of the channels using the z/MQSUI server-side security exit or stop the queue manager's CHIN (channel initiator).
2. ftp the z/OS XMIT prepared datasets to the z/OS LPAR.

**ftp -s:mqsui.ftp z/OS\_hostname**

```
your-z/OS-userid
your-z/OS-password

binary
quote SITE recfm=fb lrecl=80 blksize=3120
put MQSUI.LOAD.ZOS
quit
```

If the user receives the following error message then they will need to pre-allocate the z/OS datasets:

```
ftp> put MQSUI.LOAD.ZOS
200 Port request OK.
550-SVC99 RETURN CODE=4 S99INFO=0 S99ERROR=38656 HEX=9700 S99ERSN code X'000003F3'.
550 Unable to create data set xxxxx.MQSUI.LOAD.ZOS for STOR command.
ftp> put MQSUI.SYSIN.ZOS
200 Port request OK.
550-SVC99 RETURN CODE=4 S99INFO=0 S99ERROR=38656 HEX=9700 S99ERSN code X'000003F3'.
550 Unable to create data set xxxxx.MQSUI.SYSIN.ZOS for STOR command.
```

To pre-allocating the XMIT datasets go to option 3.2 of ISPF and allocate both dataset: MQSUI.LOAD.ZOS

Use the following dataset attributes when allocating the dataset:

Space	
Units	BLOCKS
Primary Quantity	40
Secondary Quantity	40
Directory Blocks	0
DCB Parameters	
RECFM	FB
LRECL	80
BLKSIZE	3120
DsnType	Blank

After the user has pre-allocated the dataset, the user can redo the ftp commands.

- Log on to z/OS LPAR and issue the following TSO RECEIVE command:

**TSO RECEIVE INDATASET(MQSUI.LOAD.ZOS)**

After issuing the above command, the following product dataset will appear:

**+HLQ+.CPTLWARE.MQSULLOAD** is the dataset that contains the z/OS load-module.

- Start all of the channels using the z/MQSUI server-side security exit or restart the queue manager's CHIN.

## 8 Appendix C – Capitalware Product Display Version

z/MQSUI includes a program to display the product version number.

### 8.1 Examples

#### 8.1.1 z/OS

To use the CWDSPVER program on z/OS, use the following JCL:

```
//CWDSPVER EXEC PGM=CWDSPVER,  
//SYSPRINT DD SYSOUT=*  
//STEPLIB DD DISP=SHR,DSN=+HLQ+.CPTLWARE.MQSUI.LOAD
```

## **9 Appendix D – Support**

The support for MQ Set UserID for z/OS can be found at the following location:

### **Online Help Desk Ticketing System at**

[www.capitalware.com/phpst/](http://www.capitalware.com/phpst/)

### **By email at:**

[support@capitalware.com](mailto:support@capitalware.com)

### **By regular mail at:**

Capitalware Inc.  
Attn: z/MQSUI Support  
Unit 11, 1673 Richmond Street, PMB524  
London, Ontario N6G2N3  
Canada

## 10 Appendix E – Summary of Changes

- MQ Set UserID for z/OS v1.0.5
  - Enhanced the code for dumping the pointers passed into exit.
  - Fixed an issue in the subroutine that removes trailing blanks
- MQ Set UserID for z/OS v1.0.4
  - Tuned the code that is called on entry
  - Tuned the logging code
- MQ Set UserID for z/OS v1.0.3
  - Fixed an issue in the logging framework where a constant was being modified.
- MQ Set UserID for z/OS v1.0.2
  - Enhanced logging - the LogFile keyword now supports the following tokens:  
%QM% and %CHL%
- MQ Set UserID for z/OS v1.0.1
  - Fixed an issue with using "size\_t" variable type when it should have been "int"
- MQ Set UserID for z/OS v1.0.0
  - Initial release.

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## 12 Appendix G – Notices

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