



IBM Washington
Systems
Center

Customizing a new queue manager on IBM MQ for z/OS

Audience level: Some knowledge of MQ or z/OS

Skillset: z/OS Systems Programming, MQ Administration

Background:

Every time a new release of IBM MQ for z/OS is installed, you have the opportunity to create or migrate a new queue manager with the latest capabilities of the IBM MQ release. We will go through the process of creating a new queue manager with IBM MQ for z/OS 9.3.3. IBM MQ for z/OS has been installed on the environment before the lab, so that will installation process will not be in scope of today's lab.

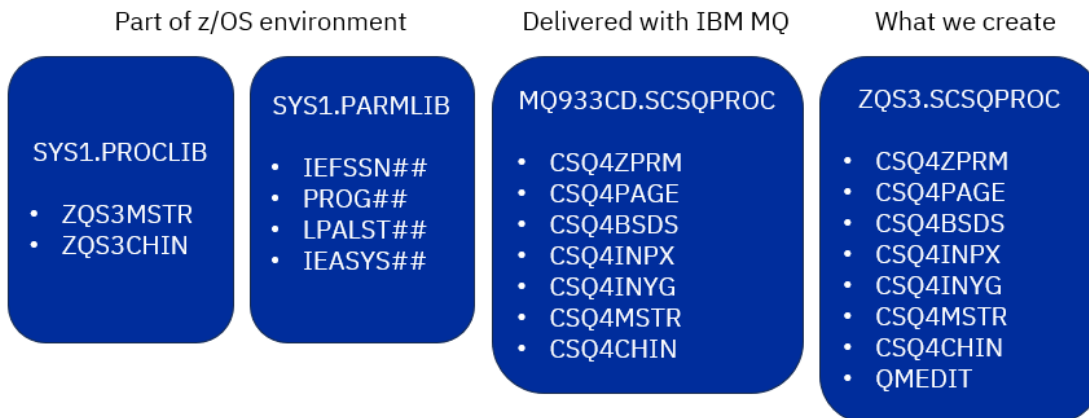
To start a new queue manager, JCL procedures need to be copied to a system JCL procedure library and the new queue manager subsystem needs to be defined to MVS.

Overview of exercise:

What needs to be done here:

- 1) Copy and tailor the sample JCL. Each of these members comes pre-canned in the IBM MQ installation. What your task is as an administrator is to customize these for your specific need.
- 2) Dynamically add MQ subsystem to MVS
- 3) Define subsystem security
- 4) Start the queue manager and channel initiator

What we're using:



Lab begin:

- We will start with copying the members from the IBM MQ code installation. All the IBM MQ installation will be under the high level qualifier MQ933CD. We are only interested in the sample code here, under SCSQPROC. (*) specifies we want all the members in the SCSQPROC dataset.

```

MUDL Sysplex - [44 x 80]
File Edit Settings View Communication Actions Window Help
PrtScr Copy Paste Send Recv Display Color Map Record Stop Play Quit Support Index

Menu RefList Utilities Help

Move/Copy Utility Enter required field
More: +

C Copy data set or member(s) CP Copy and print
M Move data set or member(s) MP Move and print

Specify "From" Data Set below, then press Enter key

From ISPF Library:
Project . . . . . (--- Options C and CP only ---)
Group . . . . .
Type . . . . .
Member . . . . . (Blank or pattern for member list,
                    "*" for all members)

From Other Partitioned or Sequential Data Set:
Name . . . . . 'MQ933CD.SCSQPROC(*)'
Option ==> C
F1=Help F2=Split F3=Exit F7=Backward F8=Forward F9=Swap
F10=Actions F12=Cancel

Menu Functions Confirm Utilities Help
Command ==> Scroll ==> PAGE
19/015

```

- We are making a new queue manager called ZQS3, so we want the new dataset to be referenceable by the high-level qualifier ZQS3. Hit enter.

```

Menu  RefList  Utilities  Help
COPY      From MQ933CD.SCSQPROC(*)
More:      +
Specify "To" Data Set Below

To ISPF Library:                Options:
Project . . .                   Enter "/" to select option
Group . . .                     Replace like-named members
Type . . .                      / Process member aliases

To Other Partitioned or Sequential Data Set:
Name . . . . . 'ZQS3.SCSQPROC'
Volume Serial . . . (If not cataloged)

Data Set Password . . . (If password protected)

To Data Set Options:
Command ==>
F1=Help      F2=Split      F3=Exit      F7=Backward  F8=Forward  F9=Swap
F10=Actions  F12=Cancel

Menu  Functions  Confirm  Utilities  Help
Command ==> Scroll ==> PAGE

```

- Type a '1' next to option 1. We want the new dataset to have the attribute of MQ933CD.SCSQPROC. Hit enter.

```

Allocate Target Data Set
More:      +
Specified data set ZQS3.SCSQPROC
does not exist.
If you wish to allocate this data set, select one of the options
below.

Allocation Options:
1 1. Allocate using the attributes of:
   MQ933CD.SCSQPROC
2. Specify allocation attributes

_ Use existing SMS attributes for option 1

Instructions:
Command ==>
F1=Help      F2=Split      F3=Exit      F7=Backward  F8=Forward
F9=Swap      F12=Cancel

```

- In the top right corner, you should see z/OS confirm that 113 members have been copied to the new dataset you created ZQS3.SCSQPROC. Great! We just need one more thing before we can customize. We are going to steal it from already-existing queue manager ZQS2 in this instance.

```

Menu RefList Utilities Help
Move/Copy Utility 113 member(s) copied
More: +
C Copy data set or member(s) CP Copy and print
M Move data set or member(s) MP Move and print

Specify "From" Data Set below, then press Enter key

From ISPF Library:
Project . . . . . (--- Options C and CP only ---)
Group . . . . .
Type . . . . .
Member . . . . . (Blank or pattern for member list,
                  "*" for all members)

From Other Partitioned or Sequential Data Set:
Name . . . . . 'ZQS2.SCSQPROC(QMEDIT)'
Option ==> C
F1=Help F2=Split F3=Exit F7=Backward F8=Forward F9=Swap
F10=Actions F12=Cancel

Menu Functions Confirm Utilities Help
Command ==> Scroll ==> PAGE

```

- QMEDIT is a REXX EXEC that will help us customize our sample code efficiently. We want to name it QMEDIT under our ZQS3 dataset as well. Hit enter and you should see in the top right corner, 'QMEDIT copied'.

```

Menu RefList Utilities Help
COPY From ZQS2.SCSQPROC(QMEDIT) More: +
Specify "To" Data Set Below

To ISPF Library: Options:
Project . . . . . Enter "/" to select option
Group . . . . . Replace like-named members
Type . . . . . / Process member aliases
Member . . . . . (Blank unless member is to be renamed)

To Other Partitioned or Sequential Data Set:
Name . . . . . 'ZQS3.SCSQPROC(QMEDIT)'
Volume Serial . . . . . (If not cataloged)

Data Set Password . . . . . (If password protected)

Command ==>
F1=Help F2=Split F3=Exit F7=Backward F8=Forward F9=Swap
F10=Actions F12=Cancel

Menu Functions Confirm Utilities Help
Command ==> Scroll ==> PAGE

```

- Now, from the ISPF main screen, if we enter '=3.4' into the command line and hit enter. We should be able to navigate to our newly created dataset. Copy the below screen and hit enter.

```

Menu  _Reverse_ _Rename_ _Utilities_ _Help
-----
Data Set List Utility
More:  +

blank Display data set list      P Print data set list
V Display VTOC information      PV Print VTOC information

Enter one or both of the parameters below:
Dsname Level . . . ZQS3.SCSQPR0C
Volume serial . . .

Data set list options
Initial View
1 1. Volume
2 2. Space
3 3. Attr1b
4 4. Total

Enter "/" to select option
/ Confirm Data Set Delete
/ Confirm Member Delete
/ Include Additional Qualifiers
/ Display Catalog Name
- Display Total Tracks

Option ==>
F1=Help      F2=Split      F3=Exit      F7=Backward  F8=Forward  F9=Swap
F10=Actions  F12=Cancel

Menu  _Options_ _View_ _Utilities_ _Compilers_ _Help
-----

```

- Hit enter
- Browse the dataset by entering a 'b' to the left of the dataset name and hit enter.

```

Menu  _Options_ _View_ _Utilities_ _Compilers_ _Help
-----
DSLST - Data Sets Matching ZQS3.SCSQPR0C      Row 1 of 1
Command - Enter "/" to select action      Message      Volume
-----
B_ ZQS3.SCSQPR0C      MQ1P00
***** End of Data Set list *****

```

- We will need to customize the following members of the dataset to effectively create a new queue manager:

CSQ4ZPRM	Creates the queue manager initiation attributes
CSQ4INYG	Commands to define objects that are normally required
CSQ4INPX	Sample commands related to the channel initiator
CSQ4CHIN	Sample Channel Initiator JCL procedure
CSQ4MSTR	Sample Queue Manager JCL procedure
CSQ4BSDS	Creates bootstrap data sets
CSQ4PAGE	Creates page sets for QM storage

- Instead of manually customizing each of these, we will use our QMEDIT to help us customize quickly. Use 'F8' to navigate down to QMEDIT from the list of members in ZQS3.SCSQPROC. Place a 'e' to the left of QMEDIT and hit enter.

```

BROWSE          ZQS3.SCSQPROC          Row 0000105 of 0000114
          Name      Prompt      Size      Created      Changed      ID
-----
          CSQ45RQM
          CSQ45RQS
          CSQ45STB
          CSQ45VER
          CSQ7IPCS
          IMQSGETR
          IMQSPUTR
          IMQWRLDR
          IMQ4B100
          e_QMEDIT          488      2024/01/11      2024/01/18 00:32:34 DQUINCY
          **End**

```

- Once inside QMEDIT, look through the code and see what the code is customizing. Since this was last used for ZQS2, you will see ZQS2 mentioned a lot. We need to change that.
- Enter the command 'C 'ZQS2' 'ZQS3' ALL' on the command line and hit enter.
- Enter the command 'C '1424' '1425' ALL' on the command line and hit enter so there isn't a port number overlap with ZQS2.
- Enter the command 'C 'SYS1.LEMVS' 'CEE' ALL' on the command line
- Enter the command 'C 'SYS1.SDSNLOAD' 'DB2V13' ALL'
- Enter the command 'C 'SYS1.SIEALNK' 'SYS1' ALL'
- By entering the above commands, we're customizing the REXX exec to the data sets of this particular z/OS environment

```

EDIT          ZQS3.SCSQPROC(QMEDIT) - 01.05          Columns 00001 00072
000073 "change '++VOLBDS1++' 'V1BDS' all"
000074 "change '++VOLBDS2++' 'V2BDS' all"
000075 "change '++VOLLOG1A++' 'V1LOGA' all"
000076 "change '++VOLLOG1B++' 'V1LOGB' all"
000077 "change '++VOLLOG2A++' 'V1LOGC' all"
000078 "change '++VOLLOG2B++' 'V1LOGD' all"
000079 /* **** CSQ4BVAR CHANGES **** */
000080 "change '++QMGR++' 'ZQS2' all"
000081 "change '++QUEUE++' 'TEST.QUEUE.LOCAL' all"
000082 "change '++USERLIB++' 'MY.LOADLIB' all" /* Optional */
000083 /* **** CSQ4BVAR CHANGES **** */
000084 "change '++QMGR++' 'ZQS2' all"
000085 "change '++QUEUE++' 'TEST.QUEUE.LOCAL' all"
000086 "change '++MSG++' '100' all" /* Messages to put and get */
000087 "change '++PAD++' '&' all" /* Padding character */
Command ==> C 'ZQS2' 'ZQS3' ALL
F1=Help      F2=Split      F3=Exit      F4=Expand      F5=Rfind      F6=Rchange
F7=Up        F8=Down      F9=Swap      F10=Left      F11=Right     F12=Cancel
Menu  Functions  Confirm  Utilities  Help

```

- Now, our REXX exec should be ready to use because it has the correct version of MQ specified, our desired queue manager name, our desired storage areas, and English. Each of those things need to be specified from the original sample code.
- We need to activate the QMEDIT code to be able to go through our relevant members and customize them quickly. Return to the ISPF main menu and enter option 6. Enter this command:

```

Menu List Mode Functions Utilities Help
ISPF Command Shell
Enter TSO commands below:
==> ALTLIB ACTIVATE APPLICATION(EXEC) DA('ZQS3.SCSQPROC')

```

- Hit enter. With ALTLIB, a user or ISPF application can easily activate and deactivate CLIST and REXX exec libraries as the need arises. We are activating the REXX exec library of QMEDIT here to enable customization.
- From the ISPF main menu, navigate back to the ZQS3.SCSQPROC members via option 3.4.
- Starting with CSQ4BSDS, we will customize:
 - CSQ4BSDS
 - CSQ4CHIN
 - CSQ4MSTR
 - CSQ4INPX
 - CSQ4INYG
 - CSQ4ZPRM
- Enter an 'e' next to CSQ4BSDS and hit enter from the member list. Once inside CSQ4BSDS, enter QMEDIT on the command input line and hit enter.

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT      ZQS3.SCSQPROC(CSQ4BSDS) - 01.00      Columns 00001 00072
***** Top of Data *****
==MSG> -Warning- The UNDO command is not available until you change
==MSG>          your edit profile using the command RECOVERY ON.
==MSG> -CAUTION- Profile is set to STATS ON. Statistics did not exist for
==MSG>          this member, but will be generated if data is saved.
000001 //CSQ4BSDS JOB
000002 //*****
000003 //*
000004 //* <copyright
000005 //* notice="lm-source"
000006 //* pids="5655-MQ9"
000007 //* years="1993,2016"
000008 //* crc="663346475" >
000009 //* Licensed Materials - Property of IBM
000010 //*
Command ==> qmedit
F1=Help   F2=Split  F3=Exit   F4=Expand  F5=Rfind  F6=Rchange
F7=Up     F8=Down   F9=Swap  F10=Left  F11=Right F12=Cancel

```

- You should notice the changes by looking through CSQ4BSDS, using F7 and F8 to navigate up and down the JCL code. Enter F3 to return to the member list and save your changes to CSQ4BSDS.
- Now, navigate back to the ZQS3.SCSQPROC list. Repeat this process for:
 - CSQ4MSTR
 - CSQ4INPX
 - CSQ4INYG
 - CSQ4ZPRM

- We are going to make an additional customization on CSQ4PAGE. Navigate to the member using 'e' to the left of the member. Once inside, enter the following commands on the command line at the bottom and hit enter.
 - c 'VOL=SER' 'STORCLAS' all
 - c 'VOLUMES' 'STORCLAS' all

We're using system managed storage devices now instead of volumes, as is the standard on z/OS now

- F3 to save the changes. We have to customize the storage here to be appropriate for this z/OS image.
- Next, we're going to modify CSQ4ZPRM. Use QMEDIT like normal, then enter the command: c '++HLQ.USERAUTH++' 'ZQS1.USERAUTH' ALL
- Last, modify CSQ4CHIN using 'e'. Use QMEDIT like normal, then we are going to make one more additional customization on CSQ4CHIN. Once inside CSQ4CHIN, enter the command 'f user exit library'. This will find the appropriate JCL.

```

EDIT          ZQS3.SCSQPROG(CSQ4CHIN) - 01.00          CHARS 'USER EXIT LIBRARY'
000116 //*****
000117 //*  USER EXIT LIBRARY                               *
000118 //*****
000119 //CSQXLIB   DD DSN=++EXITLIB++,DISP=SHR
000120 //*
000121 //*****
000122 //*  USER EXIT DATA SETS                               *
000123 //** Add here DD statements for any data sets used by user exits.  *
000124 //*****
000125 //*
000126 //*****
000127 //*  SNAP DUMP DATA SET FOR FFST ABENDS                 *
000128 //*****
000129 //CSQSNAP   DD SYSOUT=*
000130 //*
Command ==>
F1=Help      F2=Split      F3=Exit      F4=Expand    F5=Rfind     Scroll ==> PAGE
F7=Up        F8=Down      F9=Swap     F10=Left    F11=Right    F6=Rchange
F12=Cancel
  
```

- We want to comment the lines 94 and 119 out. Insert a "*" in the front of the line so that the asterisk lines up with the asterisk on the line below. It should look like this:

```

000093 //          DD DSN=SYS1.SIEALNKE,DISP=SHR
000094 //*          DD DSN=++CSFQUAL++,SCSFMOD0,DISP=SHR
000095 //*
000116 //*****
000117 //*  USER EXIT LIBRARY                               *
000118 //*****
000119 //*CSQXLIB   DD DSN=++EXITLIB++,DISP=SHR
000120 //*
000121 //*****
  
```

- You'll notice that line 93 says SIEALNKE. You will need to add an 'E' to SIEALNK to reflect the picture above.
- F3 out of CSQ4CHIN to save your changes and return to the member list.
- You can enter the command 'SORT CHANGED' from the member list panel to ensure you customized all the essential members

Menu	Functions	Confirm	Utilities	Help
BROWSE	ZQS3.SCSQPROC			Row 0000001 of 0000114
	Name	Prompt	Size	Created
	CSQ4MSTR	*Edited	148	2024/01/18
	CSQ4ZPRM	*Edited	203	2024/01/18
	CSQ4INPX	*Edited	94	2024/01/18
	CSQ4INYG	*Edited	355	2024/01/18
	CSQ4PAGE	*Edited	220	2024/01/18
	CSQ4CHIN	*Edited	132	2024/01/18
	CSQ4BSDS	*Edited	335	2024/01/18
	QMEDIT		488	2024/01/11
	CSQNONNT			
	CSQNOTES			
	CSQQTAPL			
	CSQQTSPB			
	CSQ4ACBG			
	CSQ4AMSM			
Command	SORT CHANGED			Scroll ==> PAGE
F1=Help	F2=Split	F3=Exit	F5=Rfind	F7=Up
F10=Left	F11=Right	F12=Cancel	F8=Down	F9=Swap
Menu	Functions	Confirm	Utilities	Help
Command				Scroll ==> PAGE

- Now, your customization is complete. Enter 'e' next to CSQ4BSDS and input 'SUBMIT' on the command line. This will create our bootstrap data sets for the new queue manager.
- Repeat this for CSQ4PAGE to set up the page sets for the new queue manager.

File	Edit	Edit_Settings	Menu	Utilities	Compilers	Test	Help
EDIT	ZQS3.SCSQPROC(CSQ4BSDS) - 01.00					Columns 00001 00072	
*****	***** Top of Data *****						*****
==MSG>	-Warning- The UNDO command is not available until you change						
==MSG>	your edit profile using the command RECOVERY ON.						
000001	//CSQ4BSDS JOB						
000002	//*****						
000003	/**						*
000004	/** <copyright						*
000005	/** notice="lm-source"						*
000006	/** pids="5655-MQ9"						*
000007	/** years="1993,2016"						*
000008	/** crc="663346475" >						*
000009	/** Licensed Materials - Property of IBM						*
000010	/**						*
000011	/** 5655-MQ9						*
000012	/**						*
Command	submit					Scroll ==> PAGE	
F1=Help	F2=Split	F3=Exit	F4=Expand	F5=Rfind	F6=Rchange		
F7=Up	F8=Down	F9=Swap	F10=Left	F11=Right	F12=Cancel		

- Last, submit CSQ4ZPRM using the same process as CSQ4BSDS and CSQ4PAGE
- When you return to the main ISPF menu, use option 3.4 to navigate to all the ZQS3 libraries

```

Menu  RefList  RefMode  Utilities  Help
-----
Data Set List Utility
More:  +

blank Display data set list      P Print data set list
V Display VTOC information      PV Print VTOC information

Enter one or both of the parameters below:
Dsname Level . . . ZQS3.*
Volume serial . . .

Data set list options
Initial View
1 1. Volume
2 2. Space
3 3. Attrib
4 4. Total

Enter "/" to select option
/ Confirm Data Set Delete
/ Confirm Member Delete
/ Include Additional Qualifiers
/ Display Catalog Name
- Display Total Tracks
- Prefix Dsname Level

When the data set list is displayed, enter either:
Option ==>
F1=Help      F2=Split      F3=Exit      F7=Backward  F8=Forward  F9=Swap
F10=Actions  F12=Cancel

```

- Once you hit enter, you should now see boot strap data set and page set files set up along with our original ZQS3.SCSQPROC data set. If you do not see the new data sets, something has failed in your JCL and you will need to debug. We recommend comparing the BSDS and PAGE JCL to the JCL of a working queue manager, for example, ZQS1.

```

DSLIST - Data Sets Matching ZQS3
Command - Enter "/" to select action
-----
ZQS3
ZQS3.BSDS01
ZQS3.BSDS01.DATA
ZQS3.BSDS01.INDEX
ZQS3.BSDS02
ZQS3.BSDS02.DATA
ZQS3.BSDS02.INDEX
ZQS3.LOGCOPY1.DS001
ZQS3.LOGCOPY1.DS001.DATA
ZQS3.LOGCOPY1.DS002
ZQS3.LOGCOPY1.DS002.DATA
ZQS3.LOGCOPY1.DS003
ZQS3.LOGCOPY1.DS003.DATA
ZQS3.LOGCOPY1.DS004

```

- Now, we have to edit SYS1.PROCLIB. Navigate to SYS1.PROCLIB using 3.4 on the ISPF menu. SYS1.PROCLIB needs to contain two members for ZQS3, ZQS3MSTR and ZQS3CHIN. We can add these two members by copying our CSQ4MSTR and CSQ4CHIN and renaming them.
- From the ISPF main menu, go to 3.3. Here, specify that you would like to copy from 'ZQS3.SCSQPROC(CSQ4MSTR)' to 'SYS1.PROCLIB(ZQS3MSTR)'. This will create a copy of your edited member for SYS1.PROCLIB and it will also rename the member to ZQS3MSTR.

```

Menu  RefList  Utilities  Help

Move/Copy Utility

C Copy data set or member(s)          CP Copy and print
M Move data set or member(s)         MP Move and print

Specify "From" Data Set below, then press Enter key

From ISPF Library:
Project . . . . . (--- Options C and CP only ---)
Group . . . . .
Type . . . . .
Member . . . . . (Blank or pattern for member list,
                  "*" for all members)

From Other Partitioned or Sequential Data Set:
Name . . . . . 'ZQS3.SCSQPROC(CSQ4MSTR)'
Volume Serial . . . . . (If not cataloged)

Data Set Password . . . . . (If password protected)
Option ==> C

F1=Help    F2=Split    F3=Exit    F7=Backward  F8=Forward  F9=Swap
F10=Actions F12=Cancel

MA  A  ↑  22/015

```

```

Menu  RefList  Utilities  Help

COPY      From ZQS3.SCSQPROC(CSQ4MSTR)

Specify "To" Data Set Below

To ISPF Library:
Project . . . . .
Group . . . . .
Type . . . . .
Member . . . . . (Blank unless member is to be renamed)

Options:
Enter "/" to select option
_ Replace like-named members
/ Process member aliases

To Other Partitioned or Sequential Data Set:
Name . . . . . SYS1.PROCLIB(ZQS3MSTR)
Volume Serial . . . . . (If not cataloged)

Data Set Password . . . . . (If password protected)

To Data Set Options:
Sequential Disposition    Pack Option    SCLM Setting
1 1. Mod                  3 1. Yes      3 1. SCLM

Command ==>

F1=Help    F2=Split    F3=Exit    F7=Backward  F8=Forward  F9=Swap
F10=Actions F12=Cancel

```

- Repeat this copying process for CSQ4CHIN i.e. 'ZQS3.SCSQPROC(CSQ4CHIN)' to 'SYS1.PROCLIB(ZQS3CHIN)'.
- Now, if you navigate to SYS1.PROCLIB using option 3.4, you should see the members ZQS3MSTR and ZQS3CHIN listed as members.

EDIT	SYS1.PROCLIB				Row 0000001 of 0000851		
	Name	Prompt	Size	Created	Changed		ID
	ZQS3MSTR		148	2024/04/29	2024/04/29	21:42:08	USER1
	ZQS3CHIN		132	2024/04/29	2024/04/29	21:41:48	USER1
	CSF		3	1998/03/30	2024/03/27	09:10:12	HAIMO
	MQS2CICS		93	2023/09/28	2024/03/07	16:09:18	ELKINSC
	IZUZ0SMF		19	2024/03/07	2024/03/07	11:02:44	HAIMO
	IKJZ0SMF		19	2013/07/30	2024/03/07	10:54:21	HAIMO
	MQS1CICS		93	2023/09/27	2024/03/06	17:06:04	ELKINSC
	ZQS2MSTR		149	2024/01/16	2024/03/04	18:33:06	DQUINCY
	ZQS1MSTR		149	2024/01/11	2024/01/29	11:43:03	DQUINCY
	ZQS2CHIN		132	2024/01/16	2024/01/17	15:35:56	DQUINCY
	ZQS1CHIN		132	2024/01/11	2024/01/12	11:10:05	DQUINCY
	TCPIP		118	2003/04/03	2023/10/30	09:59:11	HAIMO
	RESOLVER		35	2018/03/28	2023/10/06	19:07:33	HAIMO
	D3AGWLMC		31	2023/10/03	2023/10/03	13:23:13	HAIMO
	ZFSMOUNT		5	2014/01/28	2023/09/05	17:03:48	HAIMO
	IEECMDPF		2	2023/09/05	2023/09/05	16:24:29	HAIMO

Starting your new queue manager

Now, all the setup is complete, so we just have to start up the queue manager!

- The next few commands will all be entered in the MVS command area. Navigate there by entering 'D' in the ISPF menu command line to navigate to SDSF. Once in SDSF, enter a slash in your command input and hit enter like so:

```
SDSF MENU V2R5M0   ADCDPL   SOW1
COMMAND INPUT ==> /
```

- Execute command to dynamically define MQ subsystem:
 - SETSSI ADD,S=ZQS3,I=CSQ3INI,P='CSQ3EPX,ZQS3,S'

```
SDSF OPERLOG  MQS1      03/04/2024    0W
RESPONSE=MQS1
IEFJ022I SETSSI ADD COMMAND FOR SUBSYSTEM ZQS3 COMPLETED
SUCCESSFULLY
```

NOTE! None of these dynamic commands will last through an IPL of the system. To make these changes concrete, you will need to modify the LPALST##, IEFSSN## and PROG## members of the LPAR's SYS1.PARMLIB data set.

- F3 back to the main menu, out of SDSF, enter option 6 from the main menu. Here, you will find a TSO command input window:
 - Turn off security by entering this command:

```

Menu List Mode Functions Utilities Help
ISPF Command Shell
Enter TSO commands below:
==> RDEFINE MQADMIN ZQS3.NO.SUBSYS.SECURITY

```

- You will see an output like this, indicating this has already been done for you, but this enables you to see how we did it. Obviously, you will not be disabling security in any of your environments, just in our test environment.

```

ICH408I USER(USER1  ) GROUP(SYS1  ) NAME(MQ CLASS USER  )
      ZQS3.NO.SUBSYS.SECURITY CL(MQADMIN )
      DEFINE - RESOURCE ALREADY DEFINED
      ZQS3.NO.SUBSYS.SECURITY ALREADY DEFINED TO CLASS MQADMIN.
***

```

- Return to the SDSF command window and input the commands into the MVS command line:

```

Edit Options Help
System Command Extension
==> ZQS3 START QMGR
==>
STORELIMIT
Comment
Group Show * (F4 for list) More: +
=> ZQS3 START QMGR
=> SETSSI ADD,S=ZQS3,I=CSQ3INI,P='CSQ3EPX,ZQS3,S'
=> zqs1 start chinit
=> zqs1 start qmgr
=> zqs1 stop qmgr
=>
=>
=>

```

- Start up our queue manager ZQS3 with the command: ZQS3 START QMGR
- Start up the channel initiator with the command: ZQS3 START CHINIT
- Start up the listener with the command: ZQS3 start listener TRPTYPE(TCP) Port(1425)
- To verify that your queue manager has been set up, you can navigate to MQ Explorer and test the connection. You will use the port number you specified in the REXX exec.
- Congrats! You have created a queue manager from scratch! Lab COMPLETE!

Appendix:

- REXX EXEC is not included with the base product – describe ++ variables
- Make an error when executing your SETSSI command? Use SETSSI DELETE,S=QMZ2,FORCE to roll back your command.
- Check APF authorized libraries by entering the command /DISPLAY PROG,APF from the SDSF command input then going to the log. APF authorized libraries must be:
 - MQ933CD.SCSQANLE
 - MQ933CD.SCSQAUTH
 - MQ933CD.SCSQMVR1
- You may see several LPALST## PROG##, and IEFSSN## members. You want to use the ones specified in the SYS1.PARMLIB(IEASYS##). You can find the IEASYS## member by entering the command /D IPLINFO from the SDSF command input. It will show a screen like this:

```

-----
SDSF MENU 3.1      MQPLEX1    MQS2                                LINE 1-17 (94)
RESPONSE=MQS2
IEE254I  18.41.02 IPLINFO DISPLAY 172
  SYSTEM IPLED AT 13.14.57 ON 01/19/2024
  RELEASE z/OS 03.01.00    LICENSE = z/OS
  USED LOADMQ IN SYS0.IPLPARM ON 0A04C
  ARCHLVL = 2    MTLSHARE = N
  VALIDATED BOOT: NO
  IEASYM LIST = XX
  IEASYS LIST = (00) (0P)
  IODF DEVICE: ORIGINAL(0A04C) CURRENT(0A04C)
  IPL DEVICE: ORIGINAL(0A073) CURRENT(0A073) VOLUME(Z31RD1)
  VM CPID = z/VM    7.3.0
  VM UUID IS NOT PROVIDED
  VM NAME = MQS2
  VM EXT NAME IS NOT PROVIDED
    PS      Processes      OMVS
    SYS      System information  System
    ENQ      Enqueues       System
COMMAND INPUT ==> _
                                SCROLL ==> CSR

```

- Looking to permanently make updates to your LPALST## member?
 - Add code like this:

```

EDIT      SYS1.PARMLIB(LPALST1A) - 01.10
000016 CYG.SCYGLPA,
000017 HB0.SHBOLPA,
000018 IQI.SIQILPA,
000019 SYS1.BPN.SBPNLPA,
000020 CICS610.CICS.SDFHLPA(MQ1PR1),
000021 EJES.V630Z31.SEJELPA
..... ZQS3.SCSQLINK(MQ933CD),
..... ZQS3.SCSQSNLE(MQ933CD)

```

- Looking to permanently make updates to your IEFSSN## member?

- Add code like this:

```

File Edit Edit_Settings Menu Utilities Compilers

EDIT      SYS1.PARMLIB(IEFSSN00) - 01.37
000030 SUBSYS SUBNAME(ZQS1) INITRTN(CSQ3INI)
000031 INITPARM('CSQ3EPX,ZQS1,S')
000032 SUBSYS SUBNAME(ZQS2) INITRTN(CSQ3INI)
000033 INITPARM('CSQ3EPX,ZQS2,S')
***** Bottom of Data *****

```

- Looking to permanently make updates to your PROG## member?
 - Add code like this:

```

Menu Utilities Compilers Help

BROWSE    SYS1.PARMLIB(PROGA0) - 01.99      Line 0000000095 Col 001 08
APF ADD DSNAME(MQ933CD.SCSQANLE)           SMS
APF ADD DSNAME(MQ933CD.SCSQAUTH)           SMS
APF ADD DSNAME(MQ933CD.SCSQMVR1)           SMS

```

- Need to dynamically APF authorize your MQ load libraries?
 - SETPROG APF,ADD,DSNAME=MQ933CD.SCSQANLE ,SMS
 - SETPROG APF,ADD,DSNAME=MQ933CD.SCSQSNLE ,SMS
- Need to dynamically add some modules to the LPA (link pack area) of z/OS?
 - SETPROG
 - LPA,ADD,MODNAME=(CSQ3EPX,CSQ3INI),DSNAME=MQ933CD.SCSQLINK

```

-- Edit Options Help
SD
CO      System Command Extension
RE
C
S ==> SETPROG LPA,ADD,MODNAME=(CSQ3ECMX),DSNAME,DSNAME=MQ933CD.SCSQLI
S ==> NK
M
C
C Comment
C
C Group Show * (F4 for list)
C More: +
=> SETPROG LPA,ADD,MODNAME=(CSQ3EPX,CSQ3INI),DSNAME=MQ933CD.SCSQLI

```

- SETPROG LPA,ADD,MODNAME=(CSQ3ECMX),DSNAME=MQ933CD.SCSQSNLE