OpenQM 4.0 Quick Start

Installation and Configuration

https://www.openqm.com/support/documentation/

Download

Visit www.openqm.com/downloads and select the appropriate version for your operating system. Additional installations instructions can be found here.

Docker Container

The quickest way to get started with QM is to visit Play With Docker, a free public cloud environment utilizing Docker Containers. Run a QM environment in four commands.

```
docker run -it -d --name=qm zumasys/qm:4.0
docker exec -it qm /bin/bash
qm -start
qm
```

Entering QM

You can enter QM from the o/s command prompt simply by typing “qm” or via telnet on port 4242 with a terminal emulator such as AccuTerm.

By default, QM runs with “case inversion” where data entered at the command prompt in lowercase appears in uppercase and vice versa. This mode can simplify working with QM and other applications simultaneously but can be switched off with PTERM CASE NOINVERT or by a configuration parameter.

Accounts

An account is a place to store the programs, scripts and data files that form your application. A new QM installation has just a system administration account, QMSYS. You should not do your own developments in this account. Instead, use CREATE.ACCOUNT to create your own account and LOGTO to move to this account.

```
> CREATE.ACCOUNT MYAPP C:\QMACCS\MYAPP
> LOGTO MYAPP
```

The VOC File

Every account has a VOC (vocabulary) file that defines all of the words and symbols that can be used on the command line (much like the MD of Pick style systems). Each VOC record has a type code in field 1. The most important types are:

Type	Role
F	Maps a QM file name onto the operating system directory that represents the file.
M	Defines a menu.
PA	A paragraph (script of commands).
PQ	A Proc (the Pick equivalent of a paragraph).
Q	A pointer to a file in another account.
S	A sentence (a single command).
V	A verb (command) definition telling QM what program to execute.
X	A miscellaneous item.

There are five optional scripts, usually paragraphs, that run automatically:

Name	Role
LOGIN	Executed on entry to QM and on using LOGTO to change account.
ON.EXIT	Executed on leaving QM.
ON.LOGTO	Executed by use of LOGTO, before switching to the new account.
ON.ABORT	Executed at an error that might otherwise take the user to a command prompt.
MASTER.LOGIN	In the QMSYS account only. Executed on entry to QM before the LOGIN script.

Editors

Name	Description
ED	Simple line editor, very similar to that of other multivalue products.
SED	Full screen editor. Very powerful but takes a little while to learn.
MED	Menu editor for creating and amending VOC M-type records.
UPDATE.RECORD	Interactive or batch mode editor that uses the dictionary to present data in external form.

File Types

Every QM data file is represented by a directory at the o/s level. There are two file types. Hashed files give high performance but cannot be accessed from outside of QM. Directory files store each record as a separate text file in the directory that represents the file. They are mainly used for programs or data interchange with other software. Neither file type needs any routine maintenance such as overflow management.

```
> CREATE.FILE MYFILE DYNAMIC
```

If neither of the DYNAMIC and DIRECTORY keywords is present, DYNAMIC is assumed.

Dictionaries

Each data file normally has a dictionary that describes the data stored in the file. Like the VOC, each record has a type code in field 1. The most important types are:

Type	Role
A	Pick style data defining item, possibly including a correlative.
D	Data defining item describing a field of the database record.
I	Data defining item as an expression evaluated against the data record.
S	Pick style data defining item, possibly including a correlative.
X	A miscellaneous item.

Options and Modes

By default, QM follows the “Information style” multivalue database model but has settings to give close compatibility with “Pick style” systems. The OPTION command can be used to enable compatibility features that mostly affect the command environment. The $MODE compiler directive enables compatibility features related to QMBasic statement syntax/semantics. There are shortcut names in both OPTION and $MODE that enable multiple settings in a single operation, for example:

```
> OPTION PICK.D3
```

Getting these settings right can make migration to QM much easier.

Configuration Parameters

The qmconfig file in the QMSYS account directory contains many settings. The most important ones to get right early in migration are:

Param	Description
NUMFILES	Sets the limit on the number of distinct QM files that can be open system wide at one time. Multiple users opening the same file only count as one. Attempting to open a new file when the limit has been reached will cause the OPEN to fail. Setting a value much higher than needed will have a small impact on performance. Tip: Set a value that is likely to be a little higher than needed and use LIST.FILES to see the peak usage after running for a while.
NUMLOCKS	Sets the limit on the number of record locks that can be held at one time system wide. Attempting to acquire a lock when the table is full will wait for some other process to release a lock. Tip: As for NUMFILES, set a value that is likely to be higher than needed and use LIST.READU DETAIL to see the peak usage.

Starting and Stopping QM

The QMSvc service (Windows) or qmlnxd daemon (Linux) must be running for QM to be used. The installer usually sets it to start automatically on system coldstart. QM can be started or stopped at any time from the o/s command prompt with:

```
qmsvc  -stop
qmsvc  -start
qmsvc  -restart
```

On Linux, use qm instead of qmsvc in these commands. The -reset mode combines a stop and start operation. These background processes must be restarted after modifying the qmconfig file.