



MES QUALITY COMMANDER

System Guide

30 June 2017

MES 

The MES logo graphic consists of a grey square with a white chevron shape pointing to the right, positioned to the right of the word 'MES'.

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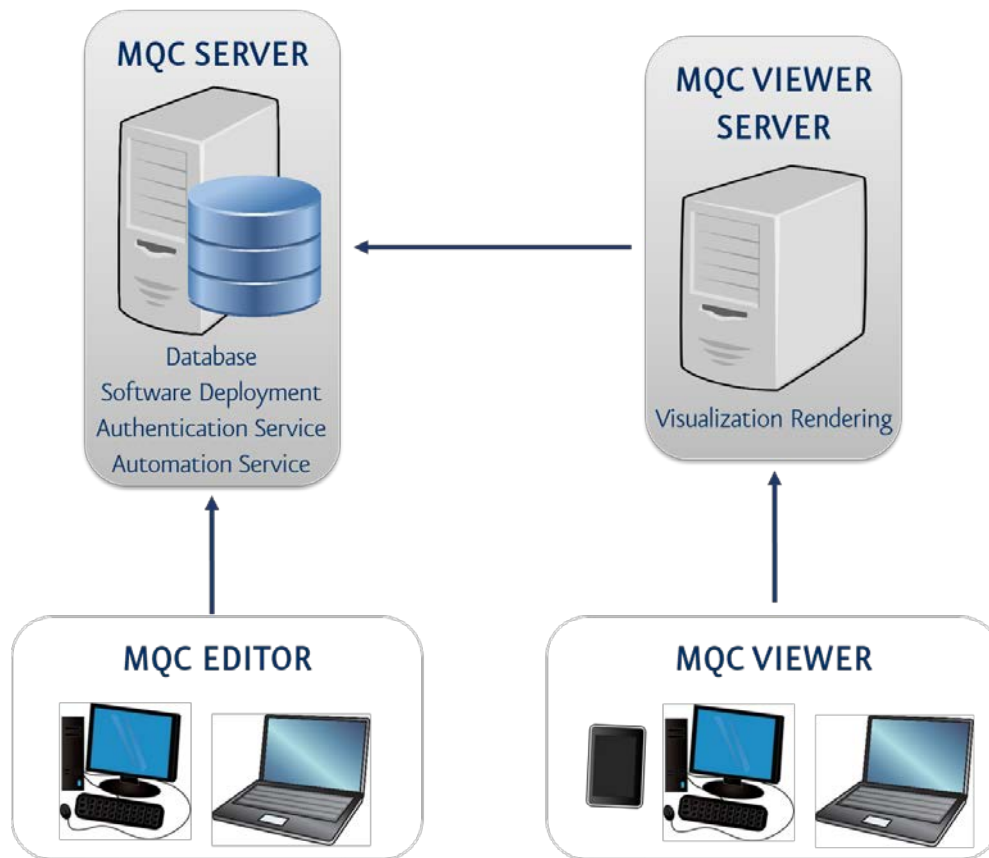
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TABLE OF CONTENTS

Architectural Overview	4
System Requirements.....	5
System Requirements MQC Server	5
System Requirements MQC Editor	7
System Requirements MQC Viewer	8
MQC Viewer: Consumer (Web Client).....	8
MQC Viewer: Service	9
Update Meachnism.....	10
Backup Strategy	11
Backup MQC Server	11
Backup MQC Project Files.....	11
Maintenance and Release Strategy	12
Release Versions of MQC	12
Maintenance Guidelines for MQC	12

ARCHITECTURAL OVERVIEW



Edition	Role	Functionality
MQC Viewer	Reader (e.g. developer, project manager, other stakeholders)	Exploration of quality status of project(s) Unlimited number of artifacts, quality measures and adapters (Refreshing data)
MQC Editor	Visualization Manager	Customization of dashboards and reports
	Quality Manager	Definition and extension of quality model Integration of new quality measures for given set of adapter
	Integration Manager	Definition of data sources for imported data Definition and adding of adapter configurations Data import management Project structure management
MQC Server	Administrator	User rights management Integration of new adapters Shared data management Software update management Automation of tasks

SYSTEM REQUIREMENTS

SYSTEM REQUIREMENTS MQC SERVER

NOTE: MQC SERVER INSTALLATION INCLUDES TIBCO SPOTFIRE SERVER INSTALLATION

Category	Requirement
Hardware	
Processor	Minimum: 2 Cores (Intel Core i3 or equivalent), 2 GHz, 64-bit Recommended: 4 Cores or more (Intel Xeon E5 or equivalent), 2 GHz or higher, 64-bit NOTE: x86 processors are not supported.
RAM	Minimum: 16 GB Recommended: 16 GB or greater
Hard disk space	1 GB of free space to complete installation 500 MB for base server software to execute Recommended 10 GB or greater when Server is configured with database on the same machine.
Software	
Operating System	Microsoft Windows Server 2012 R2 Microsoft Windows Server 2012 Microsoft Windows Server 2008 R2 (SP1 or higher) Red Hat Enterprise Linux 7 Red Hat Enterprise Linux 6 Red Hat Enterprise Linux 5 SUSE Linux Enterprise Server 12 SUSE Linux Enterprise Server 11 NOTE: Only 64-bit versions of the Operating Systems are supported.
Server Database	Oracle 12c Release 1 (12.1.0.x) Oracle 11g Release 2 (11.2.0.x) Oracle 11g Release 1 (11.1.0.x) Oracle 10g Release 2 (10.2.0.x) Oracle 10g Release 1 (10.1.0.x) Microsoft SQL Server 2014 Microsoft SQL Server 2012 Microsoft SQL Server 2008 R2 Microsoft SQL Server 2008 NOTE: Please note that the Oracle or Microsoft SQL Server database is third-party software that must be installed by the customer prior to the Spotfire software installation. It is possible but not recommended to run the database

	and Spotfire server on the same machine. If doing so, please refer to the database vendor for database system requirements.
Authentication Method	<p>LDAP - Microsoft Active Directory</p> <p>LDAP - The Directory Server product family (Netscape Directory Server, iPlanet Directory Server, Sun ONE Directory Server (v5), Sun Java System Directory Server (v6), Oracle Directory Server (v7)</p> <p>Kerberos v5 for Active Directory</p> <p>NTLMv1 and NTLMv2</p> <p>Microsoft Windows NT Domain</p> <p>Database Table (Server used to both manage and store usernames and passwords)</p> <p>Custom JAAS modules using username/password credentials</p> <p>X.509 client certificates</p>
Installation Permissions	Administrator rights are required.
Web Browser (for Server Administration/Configuration pages)	<p>Microsoft Internet Explorer 10 to 11</p> <p>Mozilla Firefox 41 or higher</p> <p>Google Chrome 46 or higher</p>
Network	IPv4 or IPv6

SYSTEM REQUIREMENTS MQC EDITOR

NOTE: MQC EDITOR INSTALLATION INCLUDES TIBCO SPOTFIRE ANALYST INSTALLATION

Category	Requirement
Hardware	
Processor	Minimum: 2 Cores, 2 GHz Recommended: 4 Cores or more (Intel Core i5 or equivalent), 2+ GHz, 64-bit
RAM	Minimum: 4 GB Recommended: 8 GB or greater
Hard disk space	10 GB is recommended for installation and normal use.
Display	Minimum: 1024x768 pixel resolution, 16 or 32-bit color depth. Recommended: 1366*768 pixel resolution or higher, 16 or 32-bit color depth.
Software	
Operating System	Microsoft Windows 8, 8.1 Microsoft Windows 7, 64-bit NOTE: x86 processors are not supported.
Installation Permissions	Administrator rights are required.
Microsoft .NET Framework	Microsoft .NET Framework version 4.5.x, 4.6.x. NOTE: Microsoft .NET Framework 4.5.2 (or higher) is strongly recommended. NOTE: If Microsoft .NET Framework 4.5 isn't installed when running the installer, the installer can (if the users accepts this when prompted) download and install it.
Microsoft Office (Optional)	Microsoft Office 365 Microsoft Office 2016, 32- and 64-bit versions Microsoft Office 2013, 32- and 64-bit versions Microsoft Office 2010, 32- and 64-bit versions Microsoft Office 2007 NOTE: Microsoft Office needs to be installed in order to use functionality that integrates with Office products (such as importing data from Excel or Access, or exporting to Powerpoint)

SYSTEM REQUIREMENTS MQC VIEWER

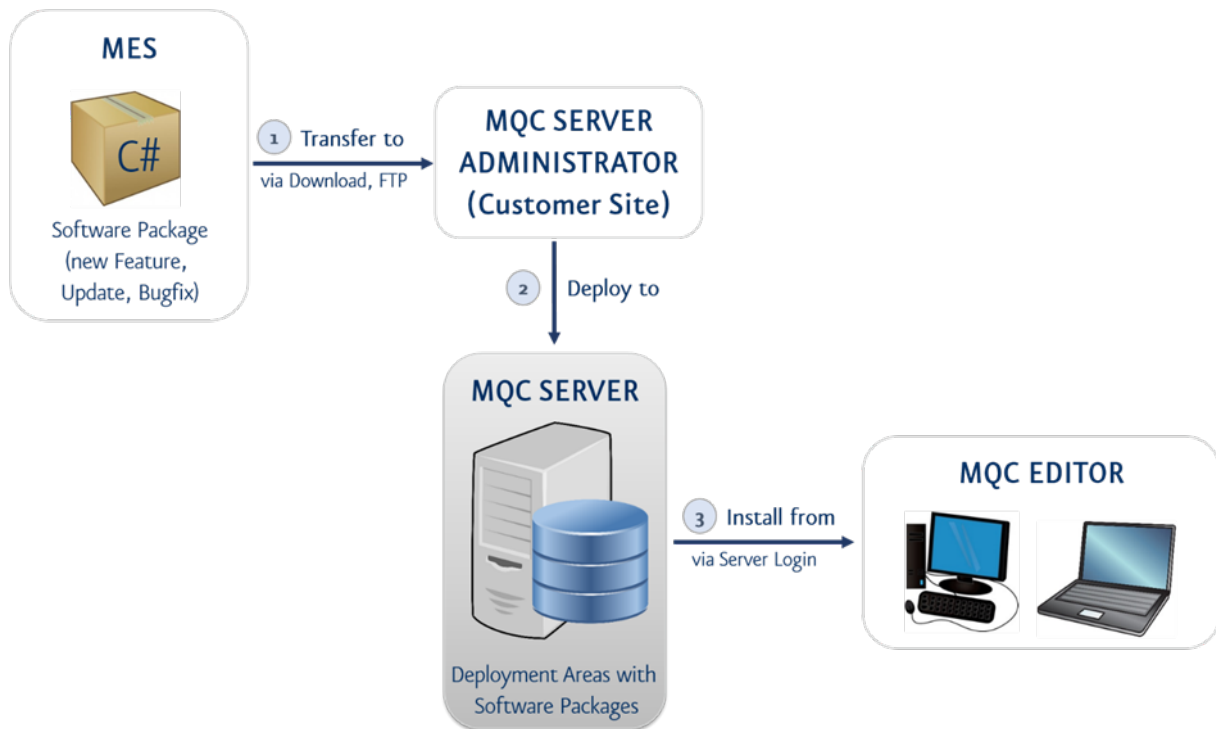
NOTE: MQC VIEWER INSTALLATION INCLUDES TIBCO SPOTFIRE WEB PLAYER CONSUMER AND SERVICE INSTALLATION

MQC VIEWER: CONSUMER (WEB CLIENT)

Category	Requirement
Hardware	
Processor	Minimum: 1 GHz, 32 or 64-bit
RAM	Minimum: 1 GB Recommended: 1 GB or greater
Display	1024x768 pixel resolution or higher, 16 bit high colors or greater
Software	
Operating System	Microsoft Windows 10 Microsoft Windows 8, 8.1 Microsoft Windows 7 Mac OS X 10.x (10.6 or higher) iOS 9.0 or higher (on iPad) Android 4.1 (Jelly Bean) or higher
Web Browser	Windows: Microsoft Edge 23 or higher Microsoft Internet Explorer 10, 11 Mozilla Firefox 41 or higher Google Chrome 46 or higher Mac OS X 10.x (10.8 or higher): Mozilla Firefox 41 or higher Safari 6.2.8 or higher Google Chrome 46 or higher iOS 9.0 or higher: Safari Android 4.1 (Jelly Bean) or higher Google Chrome Browser NOTE: The following requirements are valid for all web browsers: JavaScript must be enabled and Session cookies must be allowed

Category	Requirement
Hardware	
Processor	Minimum: 2 Cores (Intel Core i3 or equivalent), 2 GHz, 64-bit Recommended: 6 Cores or more, 2+ GHz, 64-bit
RAM	Minimum: 16 GB per instance Recommended: 16 to 50 GB per instance NOTE: The minimum amount of RAM is only suitable for basic test systems, or systems with very few simultaneous users. Production servers with large analyses and/or many simultaneous users will require significantly more RAM.
Hard Disk space	Minimum: 10 GB is recommended for installation and normal use. Recommended: Having the same amount of disk space available as the RAM.
Software	
Operating System	Microsoft Windows Server 2012 R2 (Recommended) Microsoft Windows Server 2012 Microsoft Windows Server 2008 R2 SP1 or higher NOTE: 64-bit versions required.
Microsoft .NET Framework	An existing installation of Microsoft .NET Framework version 4.5.x (4.5.2 and higher) is required. NOTE: On Microsoft Windows Server 2012 (all variants), Microsoft .NET Framework version 3.5 needs to be enabled as well.
MQC Server	Connection to a MQC Server with a running deployment. NOTE: Please note the recommendation that the MQC Viewer Server should run on a dedicated system (physical or virtual) – not shared with MQC Server.
Installation Permissions	Administrator rights are required.

UPDATE MEACHNISM



New features, updates and bug fixes are implemented in C# and will be distributed by the following steps:

1. The software package with the C# functionality has to be created (by the company which is responsible for the implementation – by default MES GmbH) and must then be provided for the administrator or installation manager of the MQC Server.
2. The administrator has to login to the MQC Server and deploy the software package via the web browser administration tool. The software package is now available for all MQC Editor Clients.
3. The users of the MQC Editor have to login to the MQC Server and accept the update. Afterwards the installation of the software package will be automatically executed and finished.

BACKUP STRATEGY

NOTE: IN GENERAL MQC DOES NOT PROVIDE A BACKUP TOOL AND THE CUSTOMER HAS TO TAKE CARE OF VALID AND CURRENT BACKUPS

BACKUP MQC SERVER

One important part of the MQC Server system is the database. It contains tables which store the state of the server, for example the library, preferences, and deployments. Most of the server configuration is also stored in the database. It is therefore vital to periodical use the backup tools provided with the database.

The other important part of the MQC Server system is the server configuration. This includes information about how the server connects to the database, which ports the server should listen to, authentication methods etc. During installation the server files are essentially all placed in the installation directory. It should be sufficient to back up this directory, of course it is possible to back up the entire file system. Once a server has been configured or hotfixed there are no further persistent changes. Log files and other temporary files will change, but a restored backup will have the same functionality.

One should also consider any other conditions in the environment and their implications, such as IP addresses and firewall rules, LDAP restrictions, and anything else that might affect getting a system back up and running.

BACKUP MQC PROJECT FILES

To backup MQC project files (created with MQC Editor) one can either save these files as library items on the MQC Server, use some sort of backup software for local files or put them under version control.

MAINTENANCE AND RELEASE STRATEGY

RELEASE VERSIONS OF MQC

The version numbers of the MES Quality Commander releases consist of three digits X.Y.Z (e.g. 1.2.4):

- X as major version
- Y as minor version
- Z as bug fix version.

MAINTENANCE GUIDELINES FOR MQC

The following maintenance guidelines are relevant:

- Features, bug fixes and patches will only be supported and released in the current minor version of MQC.
E.g. If you are using MQC in version 2.1.0 and a new feature or bug fix is implemented in MQC version 2.1.0 you have to update your MQC to get the new feature or bug fix.
- The usage of older MQC project files will be supported during one major version.
E.g. If you have a MQC project file created with version 2.1.0, the usage of it will be guaranteed (automatically or by migration script) until version 3.0.0.
- Maintenance and support for MQC will only be guaranteed for the current MQC major version.
E.g. If you are using MQC version 2.1.2 and there is a new release of MQC version 3.0.0, there will eventually be no longer maintenance and support for the MQC version 2.1.2 (especially no new features and bug fixes).