Introduction:

This document is intended to provide the viewer with an overview of the new features and enhancements in the version 6 release of the Quality Window product. This discussion will be broken into the following sections:

- QW6 Workstation Client – used for the collection and analysis of data based on a QW6 application template
- QW6 Admin Module – a dashboard of all the utility functions included in QW6 designed for the use of the QW Administrator
    - QW6 application maintenance
    - Batch Update capability – QW5 to QW6
    - QW6 shared configuration files
    - Directory Files – restrict user to specific files
    - Scripting Editor
    - Security Administration
    - Access to utility modules
    - Application trouble shooting tools.
    - Spec Management tool – managing multiple applications for revising limits

- QW6 License Manager - used to provide concurrent licencing capabilities identifying the benefits in managing user licenses. It also provides the QW Admin user the ability to identify active users and applications in use.

This is intended as an overview of the new features of the QW6 product, but you can refer to our website and view the video tutorials to provide more details on each of the items covered in this overview.

**Quality Window 6 – New Product same Look and Feel!**

We considered it very important that the QW6 product would maintain the same look and feel as the QW5 product, this makes it easier for current users to become comfortable with understanding and using the new product quickly. So, the colours used throughout the QW6 product tell the same story that the QW5 product did. This provides an instant visual understanding of the data displayed whether it is on the Add screen, Logsheet or on a chart.

We then added features that make it easier to use for both the QW6 users and the QW6 Administrator.

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QW6 – Workstation Client

- **Open/Begin Screen**:

  Access to network Navigation and available applications limited through new Security settings and use of Directory files. Refer to Security and Directory files in QWAdmin
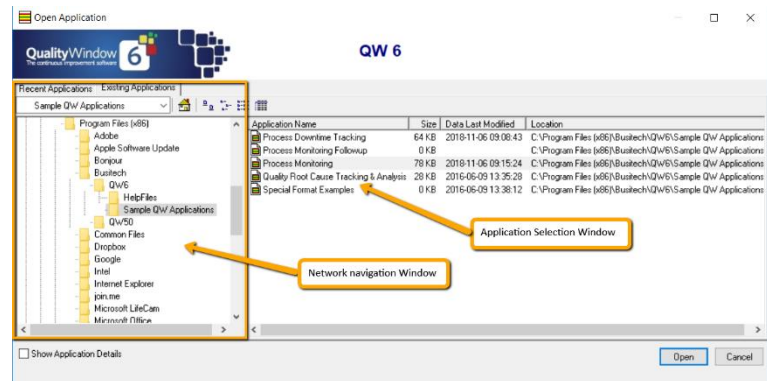
- **Using Directory Files Option – Open/Begin screen**

  This version of the Begin screen is created using the Directory files feature in the QWAdmin module. It provides access to a selected list of QW6 applications, can set read/write access rights and does not permit navigating to other locations on the network.
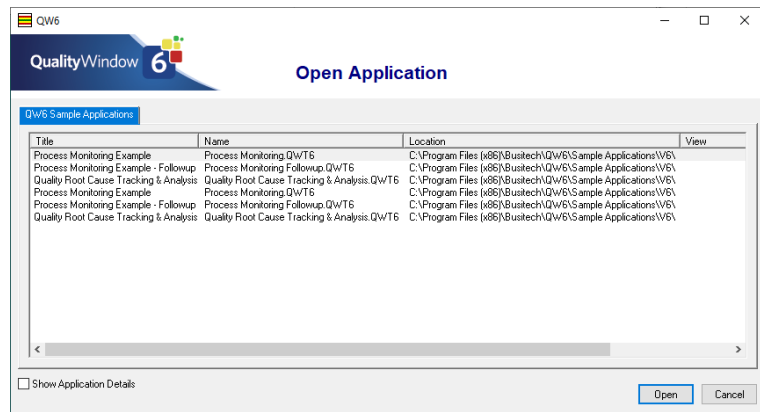
A quick overview of the Standard Screen options for all screens

**Tool Bar changes**   File   Edit   Views   Update   Tools   Macros   User   Help

- **File**
  - Application properties - Quick view of the QW6 application properties used for review and debugging of issues
  - Application Message Log – Customizable Lists all changes made to an application in the QWAdmin module and is presented to Users when the application is selected. The Message log can be edited by the Admin users when changes to application have been saved.
  - Application Change log – is an Audit trail tracking all changes made to a QW6 Application Template using the QWAdmin Applications tools or Spec Manager

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Tools:

Show/Hide Screens:

- Allows user to select of de-select screen tabs to be displayed at the bottom of the QW6 Window. This makes the QW6 interface less complicated by only showing the tabs that are required for the application.
- The default screens are set in the QWAdmin Applications module, but a user can enable a tab through this option. Any changes made while using QW6 are temporary and will revert to the default values when QW6 is closed.
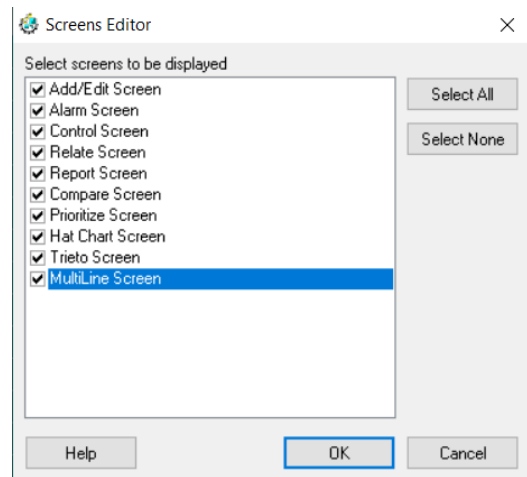
Update Shared Configuration File

- Only used in conjunction with the QW6 License Server to download the Shared Configuration files stored on the server. If QW6 License Server is not used then this function is disabled

Options and settings

- An expanded list of configurable settings. Changes to these settings are active for all users on the current Workstation only.
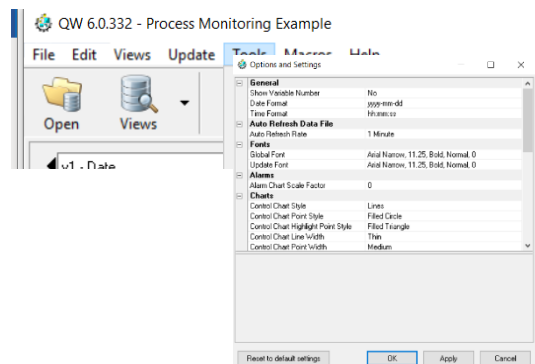
Launch Debugger.

- This feature is only used when requested by the Busitech Support Team. It assists in resolving any issues encountered while running the QW6 Client module.
- Using the debugger option will cause QW6 to run slower as it logs all the actions.
- The Debugger can be disabled by clicking the X in the upper right corner of the screen.

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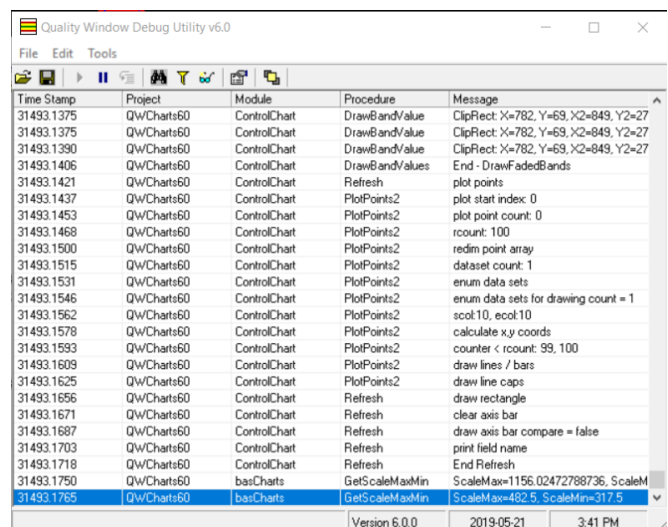
User

- QW6 provides for the signing in of individual users. This can be a force sign-in or optional. A forced sign-in can be set in the QWAdmin Security Tools Options settings.

- This User information would be used in the verification of a user's capabilities as well used for logging the recording of data in QW6. Once signed in a user does not need to provide credentials again for any actions they have they have Permissions set for.
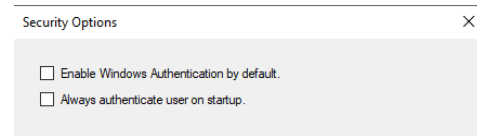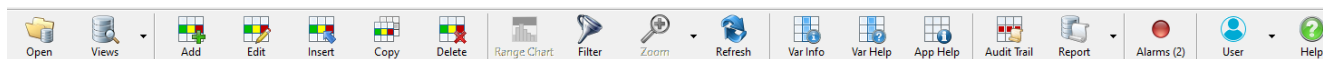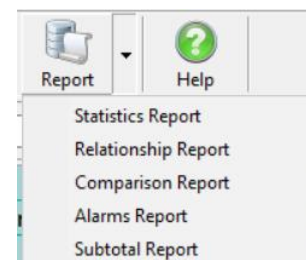
Help

QW6 now provides access to Online help which includes access to the video presentations available on the Busitech Website if Internet access is available.

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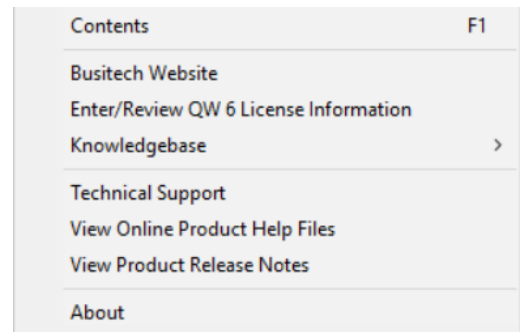
Icon Ribbon

- Access to the Open Application screen
- Access to Views
- Data Entry/Editing New
  - 5 icons have been added to the Icon bar to make Add/Editing of data accessible from multiple screens based on the positional cursor.
- Turn Range Chart on for Control chart screen
- Access the Filter Data screen
- Zoom option – expand and contract data Charting selections
- Reload current application and data
- App Help New – Added an Application help Icon to allow for easy access to additional information related to the purpose and use of the Application.
  - Recommended to use Application name with any extension you want to view it
  - Process Monitoring.HTM – will use the default viewer for HTM files.
- Report – New - added access to the Quick Reports that were accessed based on the screen the Report tab was selected from.
- Subtotal Report – New – once configured in the Views - Options menu can provide sorting and sub totaling of the data in a QW6 Application

- Alarms – When red and a number is displayed below it indicates there currently rule violations present. Go to the Alarm/Summary screen to review the alarms
- User – current User sign in.

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New Features Overview

Logsheet

Date	Time	Auto Shift	Shift	Team	Team Leader	Batch Number	Viscosity	Conveyor Speed (fpm)	Oven Temp. (F)	Weight Lane 1	Lane 2	Lane 3	Average (gm)	Range	Profile of 3 All Lanes	Weight Profile All		Defects ...und
								900.0	140.0	400.0	6.00	6.00	6.00			Xbar	6.00	3.00
yy-mm-dd	hh:mm:ss	v3	v4	v6		v7	v8	v9	v10								v19	v20
2019-03-19	22:16:11	20	3:30P TO 11:30P	30-C TEAM	RAY	1342	843	139	366	5.4	7.1	7.0	6.5	1.7	6.5		6.5	2.9

- Group Column Headings allows to organize and present like variables under group heads (default Yes)
- Show Units Row – display Unit of Measure selected for a variable in the QWAdmin Applications Module
- Hi-light Variable Reference numbers in red if there are current Alarms
- Tools - Show/Hide Screens Tabs – Allows for the temporary enabling or disabling of Screen tabs on the bottom of screens. Allows for non-display of tabs that are not required. Changes made in QW6 are not permanent – permanent changes are made in the QWAdmin – Applications module.
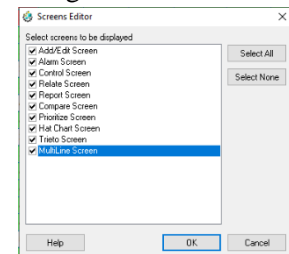

Alarm Screen formerly Summary

- A new simpler Alarm screen presentation.
- Left side of the screen displays list of variables with rule violations in priority sequence.
- Right Side allows for the recording of acknowledgement of the Alarm or a detailed explanation of the action take.

- Bottom right lists the actions taken for the variable along with User and workstation identification information.

New Features Overview
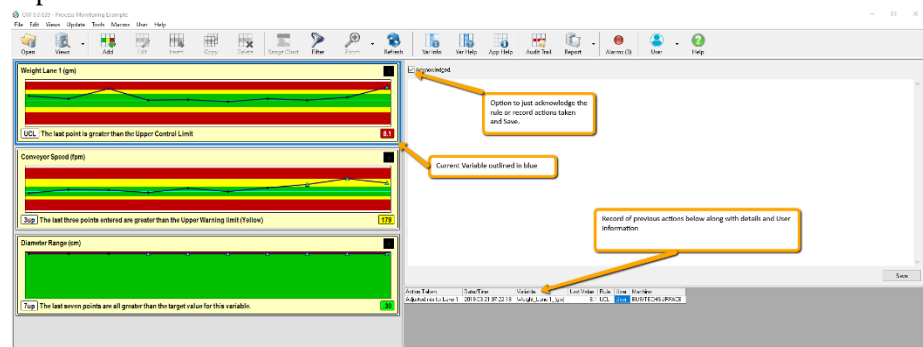
Relationship screen – Chart view

- New layout – two control charts, scatter plot and Statistics window
- Drop down list of correlated variables– highlighted if significant
- Scatter Plot – color bands indicate 95% significance
- Tighter color bands indicate a higher correlation
- Color bands sloping up indicate a Positive relationship and down indicate a negative relationship to the secondary variable selected.
- The down arrow to the right of the secondary variable selected will open this dropdown box. Variables highlighted in blue indicate they have passed the 95% confidence test. Positive (+) values indicate the tow variables are moving in the same direction. Negative (-) values indicate they are moving in opposite directions.
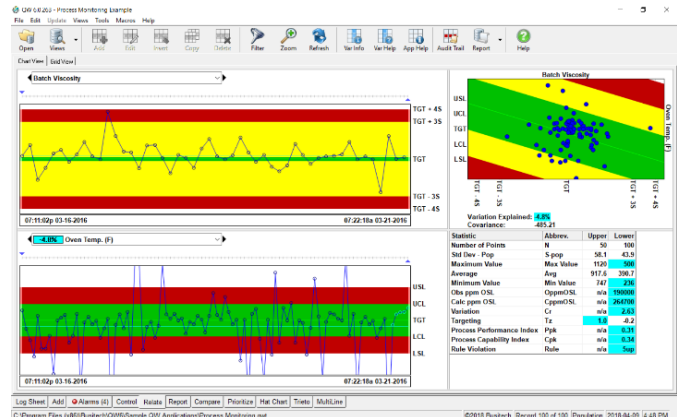
Relationship screen – Grid view

- A new addition to the already powerful Relationship capability of QW6. This view allows you to visually see the relationship results in a grid mode. A Heat map like feature indicates how strong the correlation is between two variables. The deeper the red the higher the correlation is between variables.

  You can exclude insignificant values as well as set the correlation % you wish to few in the grid.

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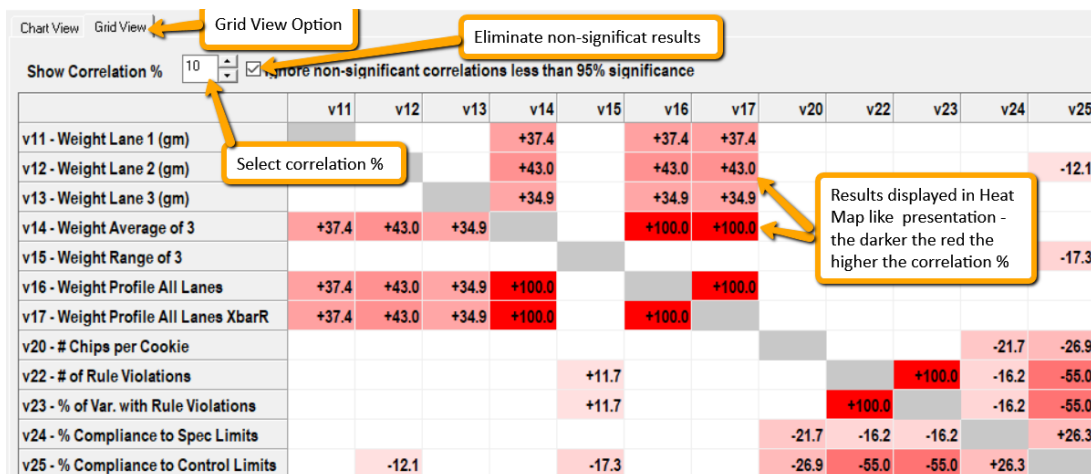
Hatchart

- promoted to a tab at the bottom of the screen
- Intuitive presentation of the data based on Variation (Cr) and Targeting (Tz)
- Supporting statistics
- Filtering of variables by:
- Variable name
- Category
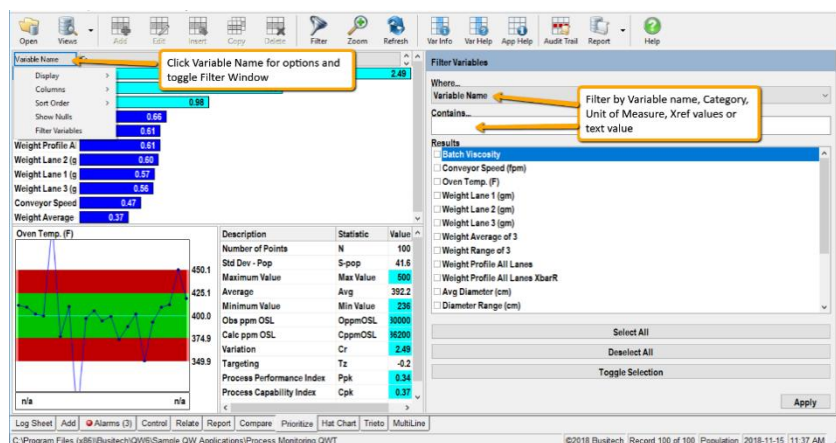- X-Reference
- Unit of measure
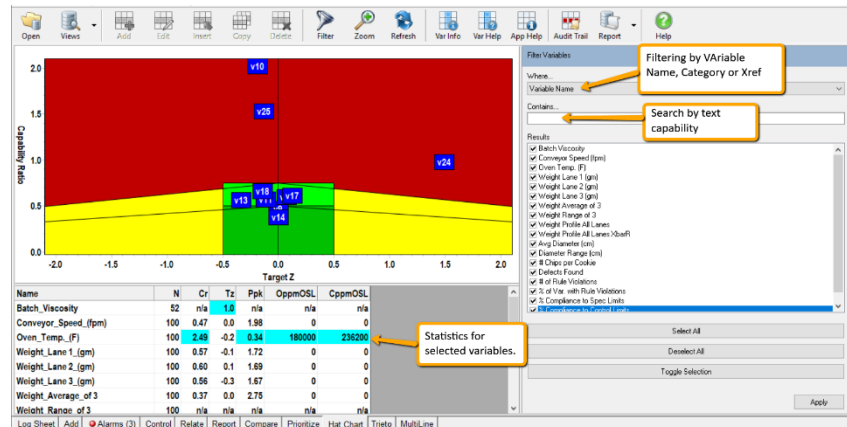
Enhanced Comparison screen

- 1 variable 2 adjustable timelines using Tibs
- 2 variables 2 adjustable timelines using Tibs

Enhanced Prioritize screen

- Filtering of variables by:
- Variable name
- Category
- X-Reference
- Unit of measure

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New Multi-Line screen

- Allows for the investigation of like variables Example
  - o Weights
  - o Calipers
- The new Capability Bar Chart +-3 SD around Average

Selection of variables by filtering on:

- Variable name
- Category
- X-Reference
- Unit of measure
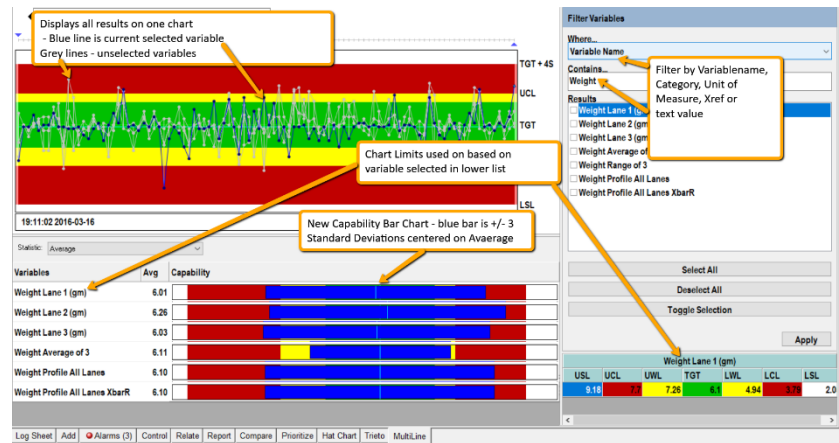
Views – Reporting – Sorting and Sub totaling

In QW6, the Reporting function within Views has been enhanced to provide the capability to sort results and provide subtotals at multiple levels. Using the powerful Filtering capability available in the Views Manager provides the ability to create reports that include both Detail and summarized results. The reports can be presented on the screen, printed, converted to PDF output or export directly to an MS Excel Worksheet. Once saved in the Views Manager Reports can be generated from a command prompt as well, allowing for the scheduled outputs – End of Shift, Day, Weekly…etc. Q

QReport Tab

This tab has been re-labelled to better reflect is function. It is designed to provide quick access to a report based on the screen it is selected from.

- Logsheet, Control, Prioritize, Hat Chart, Trieto and Multi Line – Summary statistics report
- Alarms – Rule Violations report
- Relate – Relationship summary report based on variable selected
- Compare – comparison report of all variables based on timeframe selected by Tibs

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QW6 Administrator – IT considerations

- Updated installer package to support MSI
- New configurable install
  - Define locations for QW6 Applications
  - Define locations for Shared resource files
    - Popups
    - Security
    - Rules
    - Units of measure
  - Create and save Workstation installs – no Admin tools
- Backup and Restore capability for QW6 Application Admin's
  - Decreases involvement of IT resources
  - Provide historical review capabilities for investigations of complaints and other manufacturing issues.
- Reporting of Active and Inactive QW6 Applications to assist in managing disk space.

Interface considerations when updating to QW6

The following is an overview for understanding the impact of interfaces currently in use in QW5 we be when migrating applications to QW6. All the items below should be tested to verify compatibility.
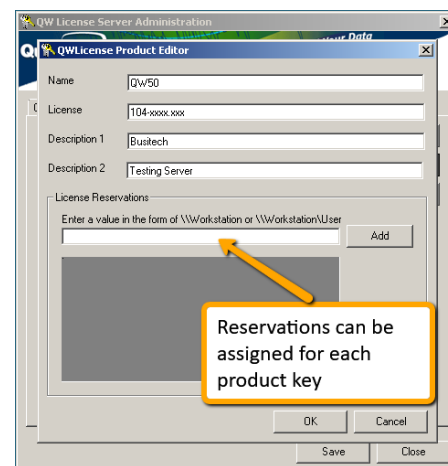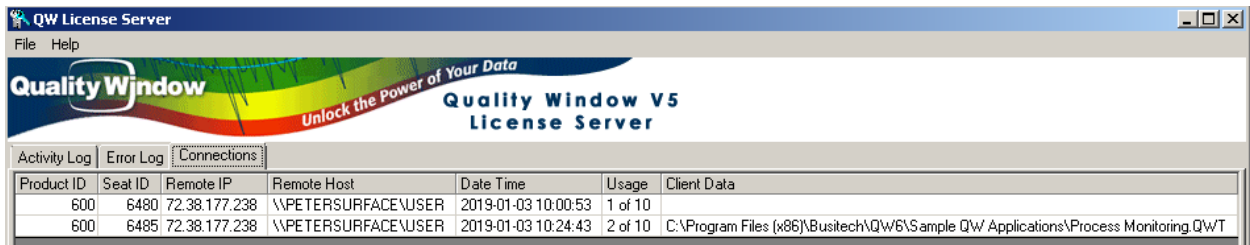
Note: The QW6 release will have a complete suite of QW6 modules including utilities as well as related products like QWDataHub and QWDataServer.

- Embedded SQL statements. If QW5 application has an embedded SQL statement to acquire data for an external database there should be no changes required.
- QWRS232 interfaces. Any Batch Files (.bat) that include the QWRS232 utility should be revised to point to the QW6RS232 utility.
- QWDataHub. should be revised to point to the QW6DataHub utility.
- QWAdd Typically used in scripts to add data to a QW application should be revised to point to the QW6Add utility and use the new QW6 file extensions.
- QWXLtoQW; should be revised to point to the QW6XLtoQW utility.
- Custom scripts
  Reading data from QW6 data files. May require revisions to incorporate the new .QWT6 and .QDT6 extensions
  Writing data to a QW6 data file. Revised to include the new .QWT6 and .QDT6 extensions
- Use of QW internal functions (API's) example QWAccess should be revised include the new QW6 modules

Ultimately the QW6 data file remains the same format as the QW5 .QWD but the extension has changed to QWD6.

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New Features Overview

QW6 License Server – managing concurrent licensing

- QW6 License Server plays a central role for the locating and managing of the shared resource files – Security Database, Default Statistics, Control Rules, Units of Measure and Scripting. It identifies a central repository for all these resource files to be shared between all users.
- The QW License Server Software has been updated to include the ability to reserve Licenses for specific workstations. Reservations are assigned in the QWLicense Server Administration tool accessible on the Server running the License Server software in the System Tray.
- This feature would typically be used for priority users that always require access to QW6, like production lines or Quality departments. Each Workstation reservation decreases the license pool available to other users by 1.
- View active users and QW 6 applications through the Connections tab

Reservations can be assigned for each product key

QW6 Application Administrator

QW6 – Application Files

Let's start with the QW6 Application file changes. QW6 applications will have new file extensions to avoid confusion with QW5 applications. QW6 applications will have a 6 added to the file extension.

.QWT, .QWI and .QWD and the Views Menu file .QWV will become .QWT6 .QWI6 and .QWD6 and QWV6

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This will permit both QW5 and QW6 to run on the same workstation which is especially important for the evaluation, testing and implementation of the new version.

- QW6 users have Read Only access to QW5 applications
- QW5 users can not access QW6 applications.

The QW6 application files contain additional fields that make them incompatible with QW5.

Support files like the Popup and IO files can continue to be used by both versions of QW.

QW6 – Application Files Conversion process

There will be two methods of converting QW5 applications to QW6.

- Using QW6 Admin to load and then save QW5 application. The save process will convert the application and create the new QW6 application files.
- A conversion utility tool (QW6Conversion) that will convert existing QW5 application file to the new QW6 format is available to handle mass changes.

NOTE:

1. The original QW5 applications remain unchanged after the conversion process. New QW6 applications are created.
2. It is highly recommended that QW5 Applications upgraded to QW6 applications should be stored in a separate directory to avoid confusion – Example QW6 Applications
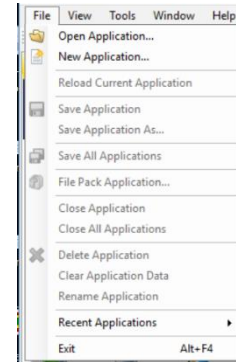
QW6 Admin

QWAdmin starts up with a new Dashboard

The Dashboard has all the Administrator tools to make the creation and maintenance of Applications simpler as well as provide access to several QW6 utility modules.
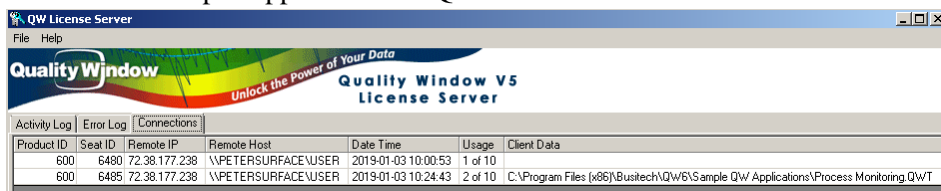
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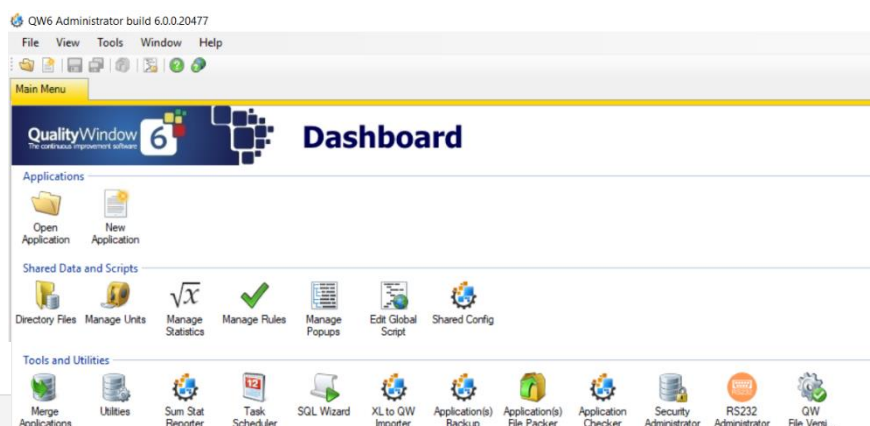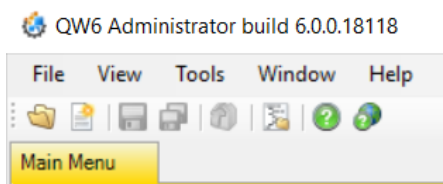
Tool Bar

- File – drop-down menu for quick access to several capabilities
- View – review application properties and Undo list of current changes
- Tools – Backup and Restore applications
    - Note: QW6 automatically now creates a backup of QW5 applications prior to the saving of modifications. Typically, these backups are stored in a directory called Archive directly where the QW6 applications reside.
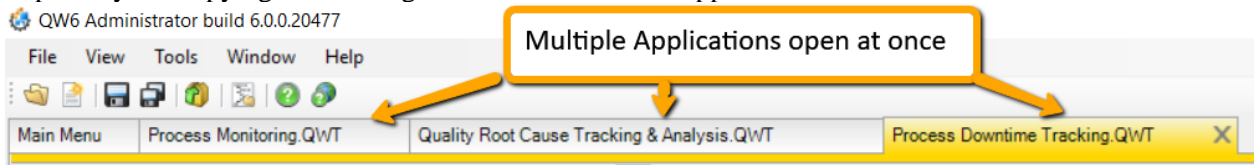- Window
    - See a list of all open applications in QW6Admin
    - Close all applications open in QW6 Admin with a save option.

Note: You can View all applications currently open in QW6 buy clicking on the Query License Server Icon.

Applications

- Open Multiple applications at the same time. Makes the maintaining of applications simpler. Especially the copying and sharing of variables from one application to another.

Variable View

- New presentation window and toolbar for making changes to applications quickly.
- Includes a new Undo function for most changes.
- Ability to toggle Variable Dependencies and Variable Help windows on and off.

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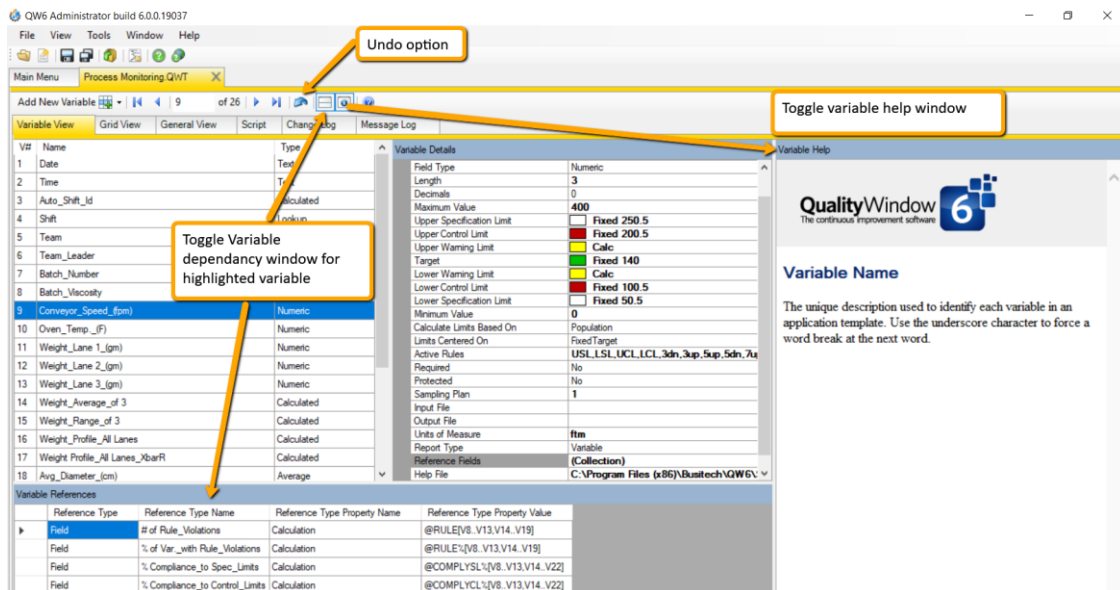
- <mark>New</mark> drag and drop capability to move variables within an application
-
- <mark>New</mark> method of setting limits for a variable based on a formula
    - Example (USL = Target +5)
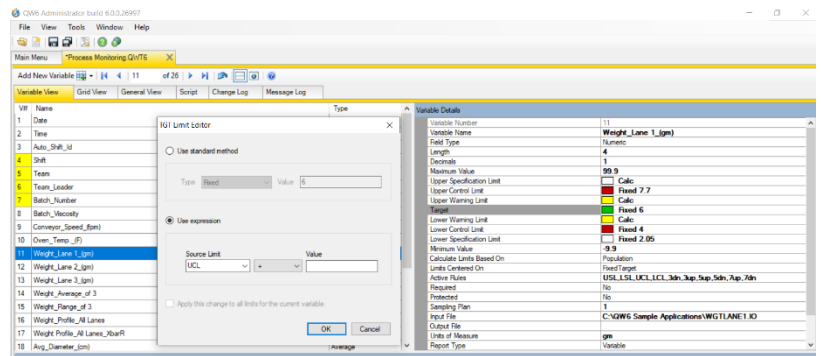
- The Variable Reference Number is highlighted in yellow for any changes made in the current session to the position of a Variable in an Application for easy reference

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Reference Fields

Added an unlimited number of reference fields to allow the tagging and identification of individual variables.

This adds to the existing XRef and Category fields which can be used in scripting interfaces to organize and identify variables.
Examples:

- Corresponding Name of a field in a database.
- Tag name for automation interfaces
- Grouping code for multiple variables in a QW6 application
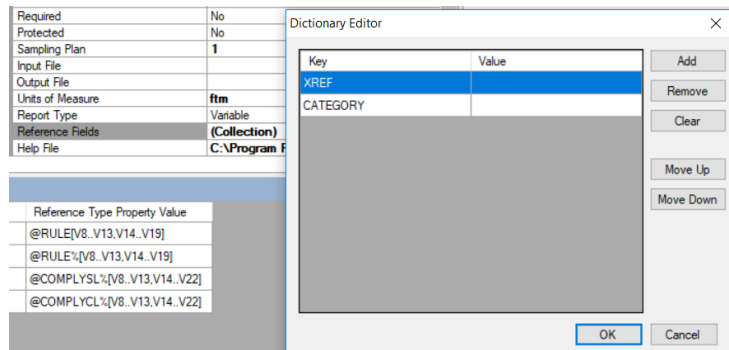
Grid View

Grid View now allows for the Adding/Inserting/Copying Moving and Deleting of variables all changes highlighted in Yellow.

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General View Details

Selectable default Screen tabs by Application

- Ability to set the default screen tabs for an application making it less intimidating for users.
- Example: Shop floor users may just require:
  - Logsheet
  - Add
  - Alarms
  - Chart
- All screens are available through the Options settings in QW6.
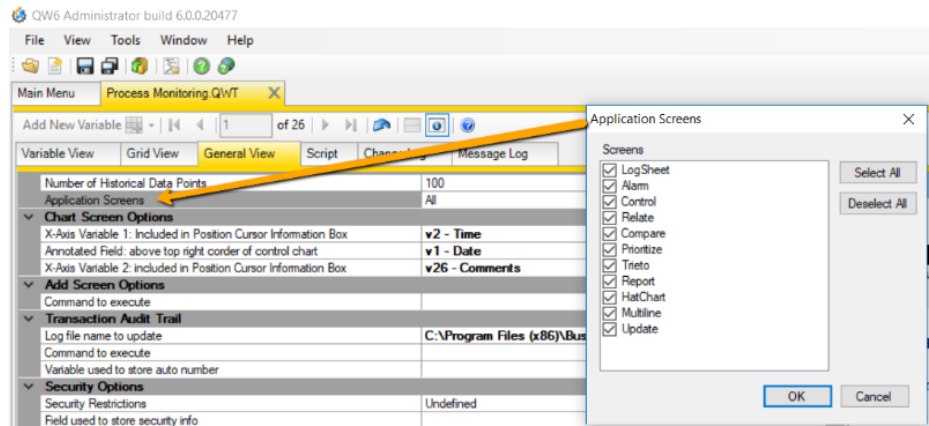
New Application Help feature.

Gives the application developer the ability to provide an overview for an application. Describe why it is important and details like timings for collecting data.

QW6 will display the document using the default viewer set for the file type. Creating the document in products like Word and then saving it as a PDF is recommended so the document can not be altered.

Application Help example for the Process Monitoring Application

The Application Help feature in QW6 is intended to provide the Application developer with the ability to convey important information about a QW Application.

This could include:
- Who created the application.
- What is the purpose of the application.
- Critical variables included in the application.
- Identify recommended sampling frequency.
- Identify interfaces to automation and/or measuring devices like weigh scales.
- Who to contact for issues detected while using the application.

QW6 Enhancements to Security and Traceability Overview

The ability to provide security for several activities in QW6 has been enhanced.

- New security database with encrypted passwords
- Option to use Windows Sign on capabilities or QW6 method
  - Windows Authentication method allows for User Id's and Passwords to be maintained across a site
  - Integrates with QW6 which will manage specific capabilities
- Provide varying levels of security for:
  - QWAdmin module
  - Manage QW6 Applications
  - Access to QWSpecManager

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- o Manage User ID's Passwords' and User capabilities
  - ▪ Access Applications
  - ▪ Add, Edit, Insert, Copy or Delete records
  - ▪ Access Views Manager to revise Views
- • Track all changes to data in an Application (Transaction Audit Trail)
- • Track all changes made to QW6 applications using both QWAdmin and QWSpecManager modules.

Expanded Security capabilities - detail

Along with increased capabilities for managing user security, QW6 offers two methods of managing passwords.

The first option is the QW6 method. It allows for restricted access to the QWAdmin module as well as the second level of password protection to access the Security settings.

Capabilities can then be assigned to each different User Id. In QW6 it should be noted that all passwords are encrypted and can not be viewed once set.

The second option is to use Windows Authentication. This will allow for all User Id's and passwords to be managed externally from QW6. Once a user is authenticated using the Windows method a positive token containing the User Id is passed to QW6. QW6 would then use that User Id to interrogate the security database to determine what capabilities or restrictions apply to that user.
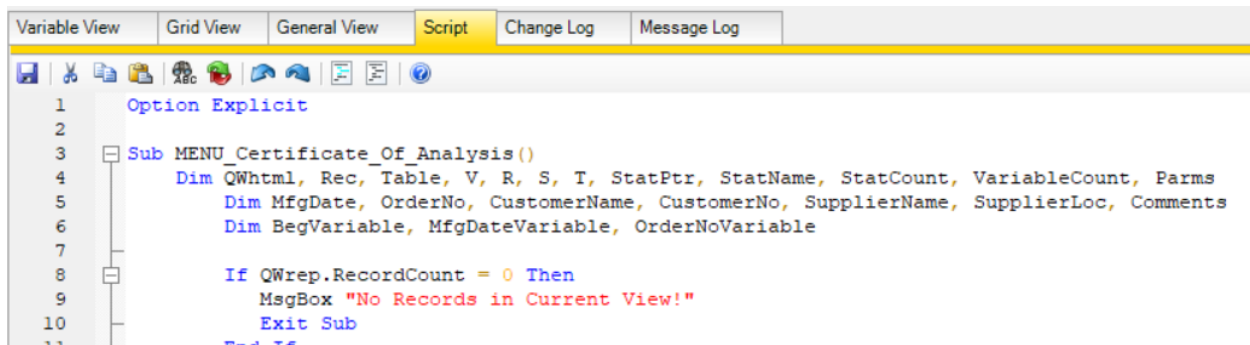
Using the Windows Authentication method allows Administrators to manage User Ids and passwords used to access workstations.

Take advantage of the existing password policies No need to manage passwords separately. Respects account lockout, password management capabilities such as password duration and forced password changes.

Script Editor – enhanced

A new tool for managing the System Scripts for QW6. Making scripts more readable based on improved formatting as well as editing tools for such things as find/replace.
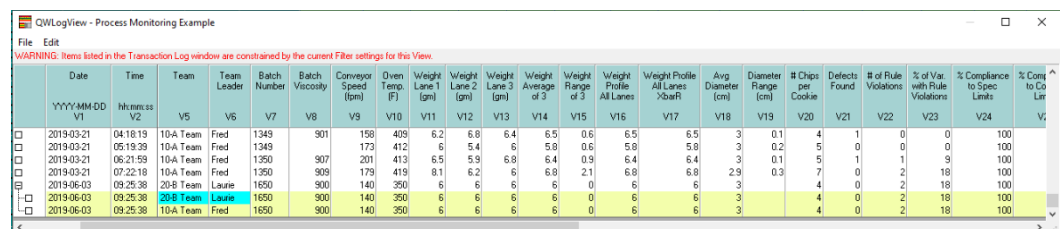
Revised: July 6, 2020

Tracking changes to data and Applications in QW6

There are three main components to the tracking and notification of changes to data as well as Applications in QW6.

1. Expanded transaction audit trail of all changes made to data in a QW5 application
2. New Audit trail of all changes made to a QW6 application
3. New message log to notify users of application what changes have been made to an application

Transaction Audit Trail

The Audit trail of all changes to data in an application has been updated to include identification data to better track updated to data.

- Module – which QW6 updated the data
- ComputerName – Workstation ID
- UserName – active when action taken
- ProcessID – Unique system identifier for the action taken
- QWVersion – Build number of the module taking the action

In QW6 the Transaction Audit Trail is carried forward if any structure changes are made to a QW6 Application template.

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Application Change Log

A new Change Audit trail has been added to track all revisions made to a QW6 application. This provides the traceability of changes that auditors look to assist in the validation of QW6 applications.

	Time Stamp	User	View	Version	Change Type	Source Type	Category	Name	Old Value	New Value
▶	2018-11-05 11:1...	PETERSURFAC...	MAIN	5.001	Calculation	VARIABLE	# of Rule_Violati...	Calculation	@RULE[V8..V13...	@RULE[V8..V19]
	2018-11-05 11:1...	PETERSURFAC...	MAIN	5.001	Calculation	VARIABLE	% of Var._with R...	Calculation	@RULE%[V8..V1...	@RULE%[V8..V19]
	2018-11-05 11:1...	PETERSURFAC...	MAIN	5.001	Calculation	VARIABLE	% Compliance_to...	Calculation	@COMPLYSL%[...	@COMPLYSL%[...
	2018-11-05 11:1...	PETERSURFAC...	MAIN	5.001	Calculation	VARIABLE	% Compliance_to...	Calculation	@COMPLYCL%[...	@COMPLYCL%[...
	2018-11-05 11:2...	PETERSURFAC...	MAIN	5.002	Specs	VARIABLE	Weight_Lane 1_(...	TGT	F6	F6.1
	2018-11-05 11:2...	PETERSURFAC...	MAIN	5.002	Specs	VARIABLE	Weight_Lane 2_(...	TGT	F6	F6.2
	2018-11-05 11:2...	PETERSURFAC...	MAIN	5.002	Specs	VARIABLE	Weight_Lane 3_(...	TGT	F6	F6.3

Message Log

Provides the Application Administrator the ability to present details of changes made to an application when the application is selected from the Open Screen in QW6 by the end user.
Example:

- Changes to specification, control and target limits
- Variables added, deleted or moved in the application
- Changes to sampling plan frequency

The message log can be edited by the Application Admin after changes are saved for an Application. This allows the Application Admin to provide a more detailed explanation of the changes and their importance.

```
Variable View    Grid View    General View    Script    Change Log    Message Log

NOTICE - The following changes have been made to this application:
View MAIN, changed by PETERSURFACE\User on 2018-11-05 11:18:55
Source: VARIABLE '# of Rule_Violations', changed Calculation from @RULE[V8..V13,V14..V19] to @RULE[V8..V19]
Source: VARIABLE '% of Var._with Rule_Violations', changed Calculation from @RULE%[V8..V13,V14..V19] to @RULE%[V8..V19]
Source: VARIABLE '% Compliance_to Spec_Limits', changed Calculation from @COMPLYSL%[V8..V13,V14..V22] to @COMPLYSL%[V8..V22]
Source: VARIABLE '% Compliance_to Control_Limits', changed Calculation from @COMPLYCL%[V8..V13,V14..V22] to @COMPLYCL%[V8..V22]
View MAIN, changed by PETERSURFACE\User on 2018-11-05 11:23:10
Source: VARIABLE 'Weight_Lane 1_(gm)', changed TGT from F6 to F6.1
Source: VARIABLE 'Weight_Lane 2_(gm)', changed TGT from F6 to F6.2
Source: VARIABLE 'Weight_Lane 3_(gm)', changed TGT from F6 to F6.3
```

Revised: July 6, 2020