A – Gauge Agent Fundamentals

1. Gauge configuration requires a fundamental understanding of several key components and concepts:

   Gauge Agent – Software installed on any Enact workstation that will be supporting gauge connections.

   Gauge Interface – A configuration that includes any special port initiation or termination strings in the rare chance they are needed.

   Gauge Format – A configuration that enables Enact to extract the desired data from a gauge's output string.

   Gauge Interface Connection – A configuration were specific port communication and data transfer settings are defined.

   Gauge Device – A configuration that brings all of the above together to complete a connection from a specific gauge to a specific workstation. Also enables gauge naming standardization so that multiple gauges, even those of different make or model, can be used for the same data collection across an organization.

2. Gauge Agent installs two Folders (in C:\Program Files (x86)\InfinityQS International\Enact\GaugeAgent) with many files and two main EXEs on the box (W10 or newer, laptop, desktop or server).

2.1. ***InfinityQS.Enact.Agent.Service.exe*** is the Agent Service, when running, it sends ASCII strings from gages connected to the box onto any device with Enact sw running on a web browser.

2.2. ***InfinityQS.AgentAutoUpdater.exe*** runs as a system tray application, it does NOT need to be running for Agent Service to communicate with Enact. However, it should always be running.

B – Troubleshooting Fundamentals

1. Was it working before?
   1.1. A box (laptop, desktop or server with Windows 10 or newer) with a new Enact Gauge Agent install MUST comply with **system** requirements and **firewall** settings (on-line help link: https://enacthelp.infinityqs.com/en-us/Gauges/GaugeAgent/IntroGaugeAgent.htm#Install) for Gauge Agent service to yield a ***successful*** **initial Gauge Agent setup**.

   1.2. If Gauge Agent service had a successful initial setup and a Data Collection through Enact on any web browser on any device (laptop, iPad, android, etc.) was receiving values

from the gage, and then, after a few days or weeks the gage no longer sends to Enact, find out if there were any changes in the systems involved:

1.2.1. Was the OS upgraded (e.g. from W7 to W10)? Did Android or iOS have an update?

1.2.2. Was the box turned off unexpectantly (power outage, crash, etc.)?

1.2.3. Were there any IT changes (**firewall**, group policy, network, anti-virus, etc.)? Incomplete / incorrect Firewall settings are # 1 root cause for Gauge Agent issues.

1.2.4. Was the measurement device (aka Gauge) calibrated or serviced?

1.2.5. Was the browser updated (Chrome, i.e., Edge, etc.) or is it outdated?

1.2.6. Was Enact sw updated?

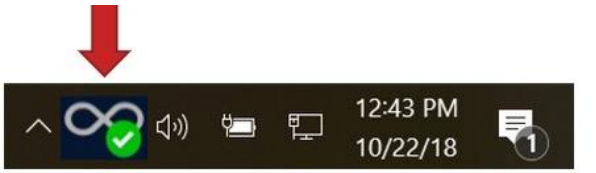
1.2.7. Are physical connections as expected (USB connections, cable not worn out, RS232 connections, was the USB or RS232 port used swapped, etc.)? Is SEND button on gage still functional? Are all other cables functional?

1.2.8. Is Device Manager recognizing the Comport? Does the comport number assigned match the original comport number that the Gage Interface is linked to?

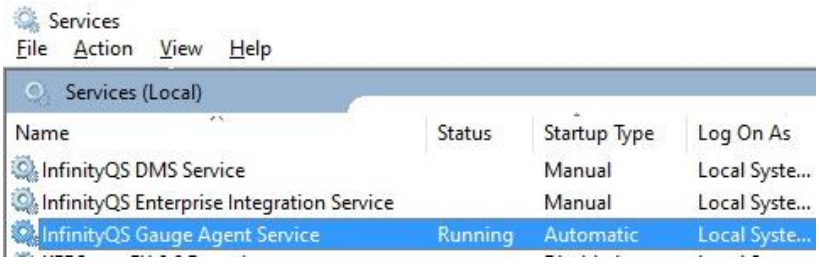
C – Typical Root Causes when Gage value not received in Enact Data Collection

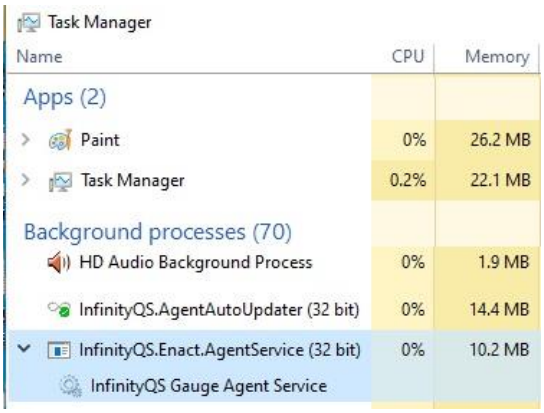
Agent service had a successful initial setup, the gage stopped communicating days after the initial setup. The *gage not sending* could be a consistent behavior or sporadic. To further qualify and troubleshoot the issue, confirm items in B.1.1, if issue continues, perform the steps below:

1. Is Gauge Agent Updater **system tray icon green** and is Gauge Agent Service **running?**



The Gauge Agent status icon in Windows system tray





1.1. IF **YES**, proceed to **step 2.**

1.2. IF **NO**, troubleshooting needs to take place on the box (laptop, desktop or server) with Gauge Agent installed on it, proceed to Section D.

2. How many different browsers (Chrome, Edge, Firefox, etc.) and how many tabs have a Subgroup Add dialog open for the same Data Collection?

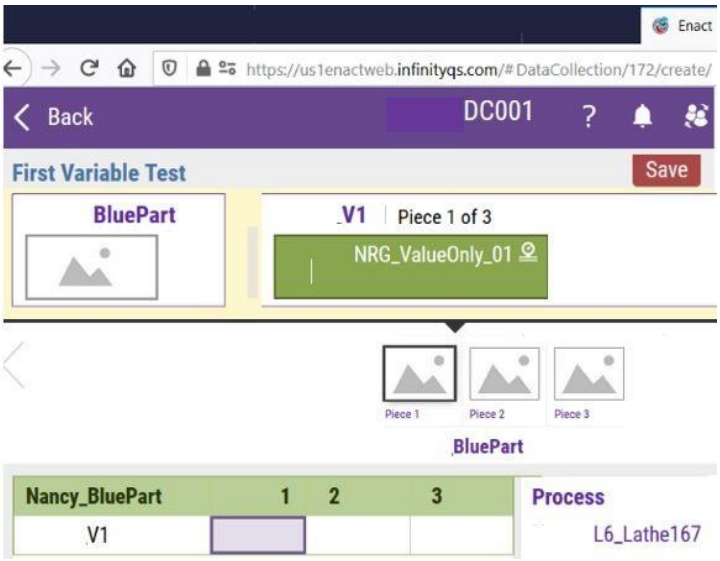
2.1. Each ***Subgroup Add*** **dialog** (aka ***Data Entry*** **window**) will attempt a connection to the Gauge Agent service. Only **one** Data Collection **Add** dialog should be open for any given gage input Data Collection. To confirm if this is the issue, close all tabs and all browsers that have Enact open, then troubleshoot with only one Enact Tab.

3. Close the existing browser type (e.g. Chrome) and open with a different browser type (e.g. Microsoft Edge) – does the value go through in a different browser?

3.1. IF **NO**, proceed to **step 4.**

3.2. IF **YES**, troubleshooting is applicable at the browser level, local IT should get engaged, see Section F.

4. Does the gage **send test values** to any of **Data Collection Data Entry** window? Perhaps **Data Collection *ABC*** does not get the gage value, yet **Data Collection *DEF*** does**.**

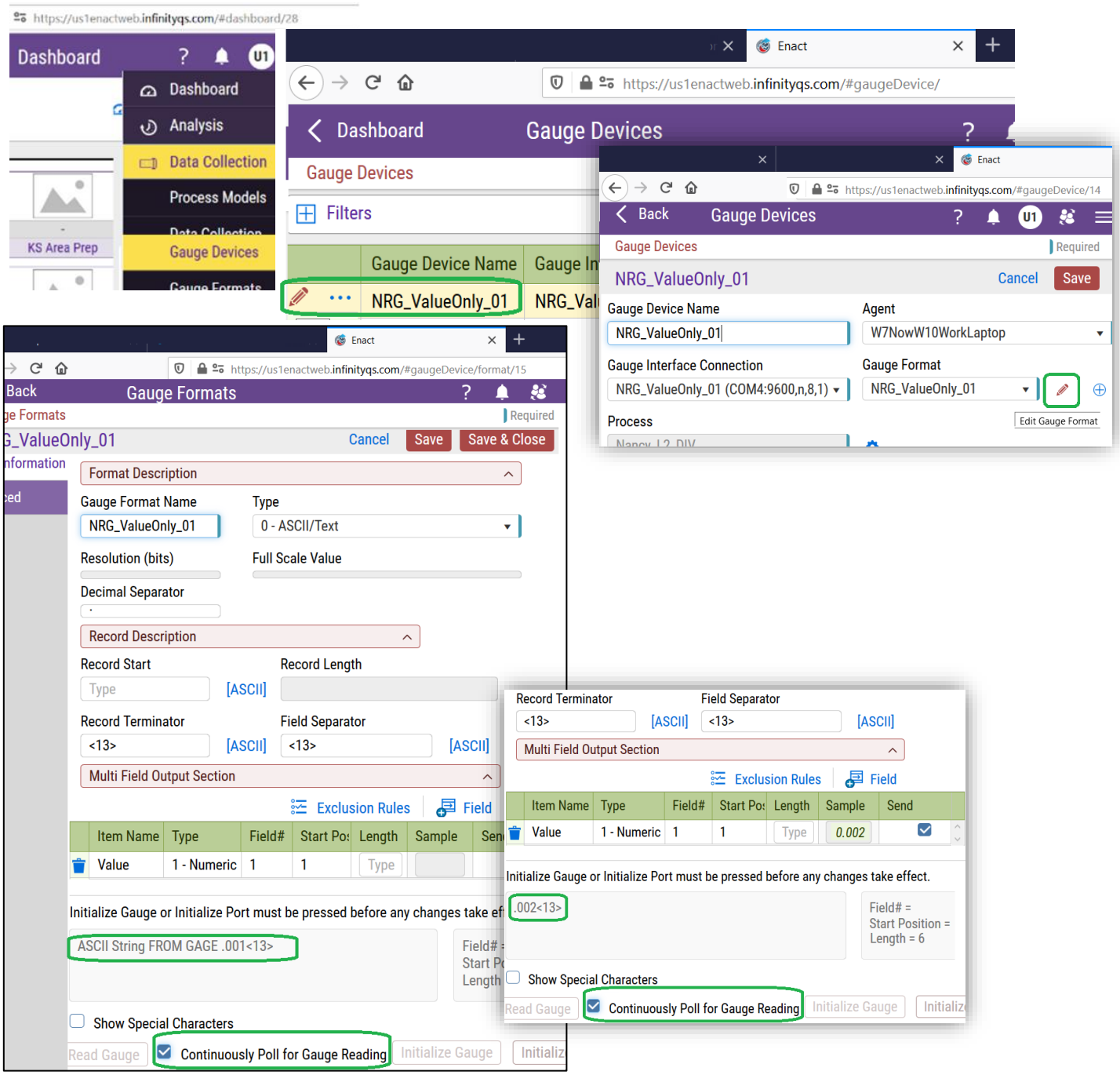


4.1. IF only one Data Collection uses the Gauge Device or none of the Data Collections receive gauge values, proceed to **step 5**.

4.2. IF **YES**, troubleshoot Data Collection, Process Model, permissions and/or Process assignments for Gauge Device, Workstation and Enact user. Log onto Enact with a

different Enact user to check if values go through to the Data Collection. Log onto Enact from different device, check if values go through the problem Data Collection**.**

5. Does the gage send **any characters** in the ***Edit*** **Gauge Devices** | ***Edit*** **Gauge Formats?**

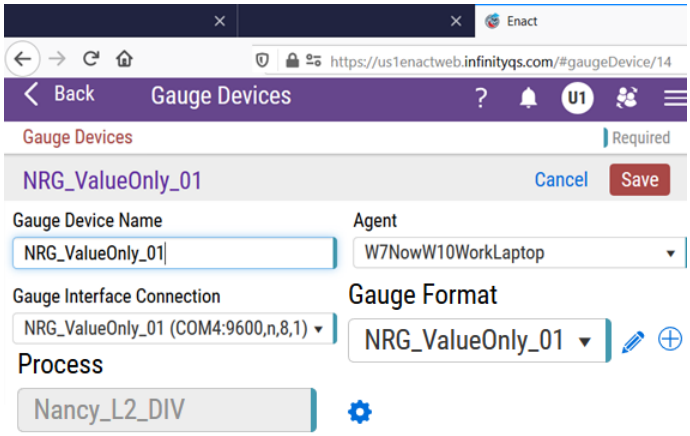


5.1. IF **NO**, go to step 6

5.2. IF **YES**, it is likely the ASCII string that the gage sent changed or has invalid characters. Look at the Gauge Format | Record Description settings and confirm they apply to the ASCII string, confirm the field set to test value is **only *numeric*** in ASCII from gage.

5.2.1. Look at the SAMPLE field. If you can see a value with a GREEN background, then it should be fine, and if this value is not sent to the data collection then you need to check the data collection settings. If there's no value or a red background, then the Gauge Format settings need to be changed. For instance, you'll get a red background if some EXCLUSION RULES have been enabled

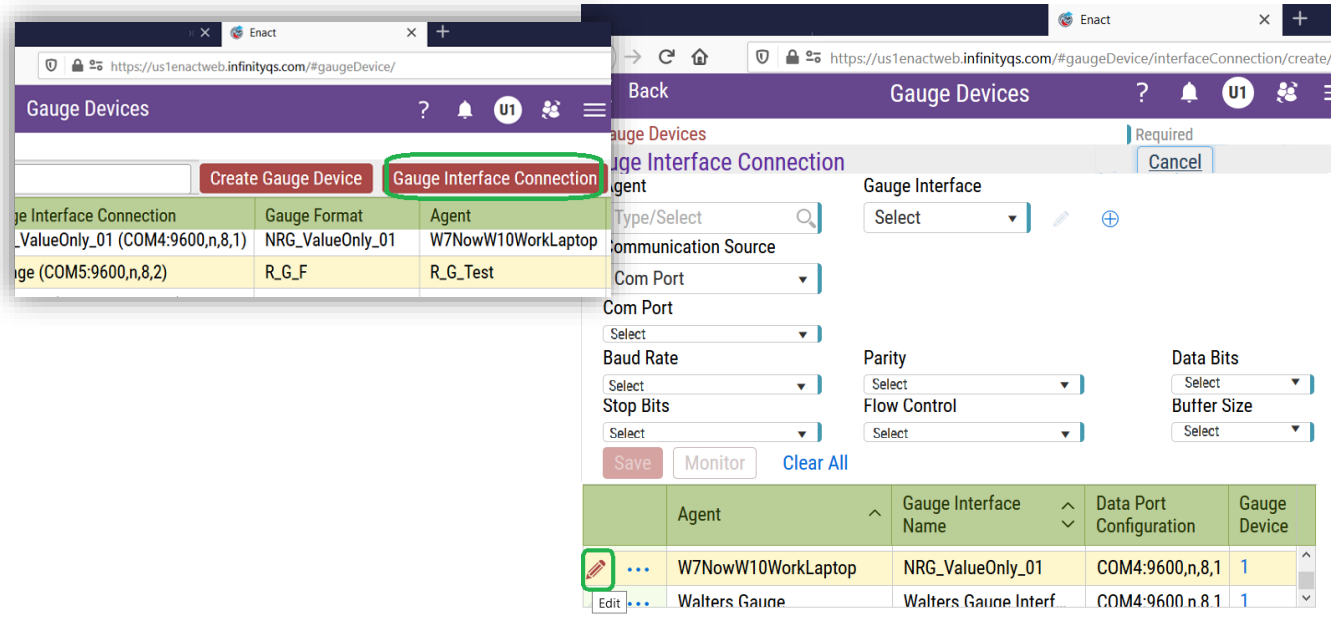
6. Are the selections in the Gauging Device correct (perhaps Agent, Device or format are wrong)?

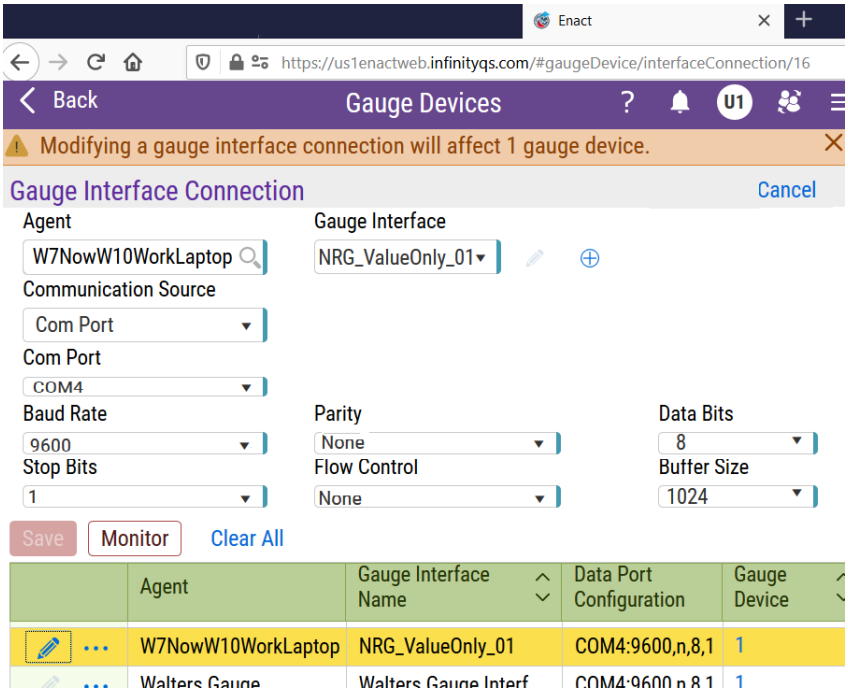


6.1. IF **YES**, go to step 7.

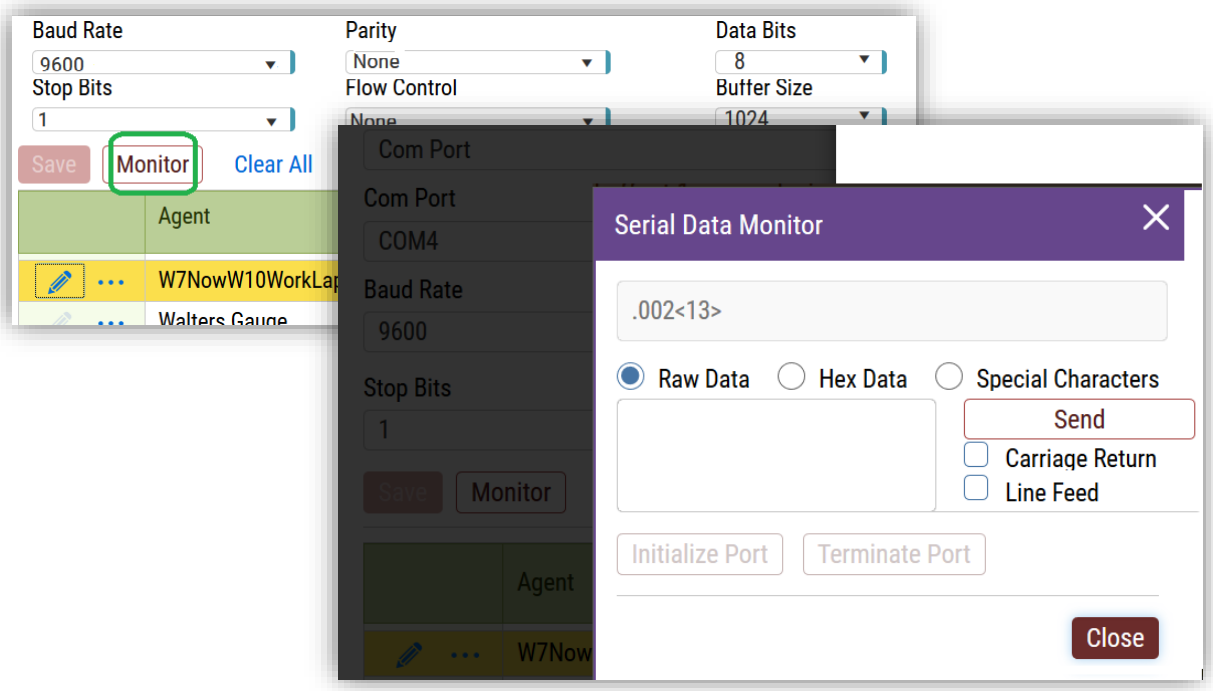
6.2. IF **NO**, it is likely that some hardware change caused the mismatch – wrong Comport, Agent name changed on the box running Gauge Agent, perhaps wrong Process or wrong Gauge Interface Connection are selected.

7. Are selections in **the Gauge Interface Connection | Edit** correct?





7.1. Can the gage value be seen in the **Gage Interface Connection | Serial Data Monitor**?



7.2. If gage value is NOT seen in the Interface Connection Serial Data monitor, then issue lies within the selections at the Gage Interface dialog. If user unplugged the USB gage cable and plugged it onto a different USB port on the box running Gauge Agent Service,

then COM # will be different than the one originally selected in the Gauge Interface Connection. Perhaps, the wrong Interface is selected, or the gage is not communicating with the Gauge Agent service on the box. Proceed to Section D as it is applicable to troubleshoot and confirm settings on the box that Enact Gauge Agent is installed.

D – Other reasons for Gauge value not sending to Enact

Per historical tech cases, when the gauge stops sending to Enact it is typically caused by: **incorrect firewall settings** (see B.1.1.), there was **a change in the ASCII string**, the **ASCII string has invalid characters** (see C.5 and C.5.2), or the **Gauge Agent version is old**, be sure to run the updater to run the newest update on the box. IF the answer to C.5. was NO or if all 7 steps in section C did not yield a root cause, below are other potential causes and troubleshooting techniques. At this point of troubleshooting the Enact Administrator and potentially local IT should be troubleshooting on the box (server, laptop, etc.) that has Enact Gauge Agent installed on it.

1. Is the Updater (Gauge Agent Updater) system tray icon Green?

The Gauge Agent status icon in Windows system tray

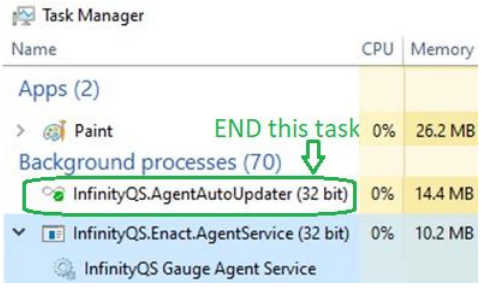

Connected to application | No connection with application | Gauge agent service stopped

1.1. IF **YES**, proceed to step 2

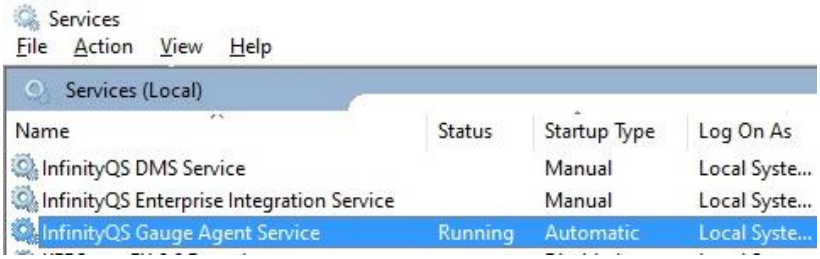
1.2. IF the Updater icon is yellow, it typically indicates that there is no Gage Interface linked to the Agent Service (InfinityQS Gauge Agent service) or that the box does not have internet connection.

1.3. IF the Updater icon is Red:

1.3.1. Use a windows administrator account to end the Updater EXE in Task Manager



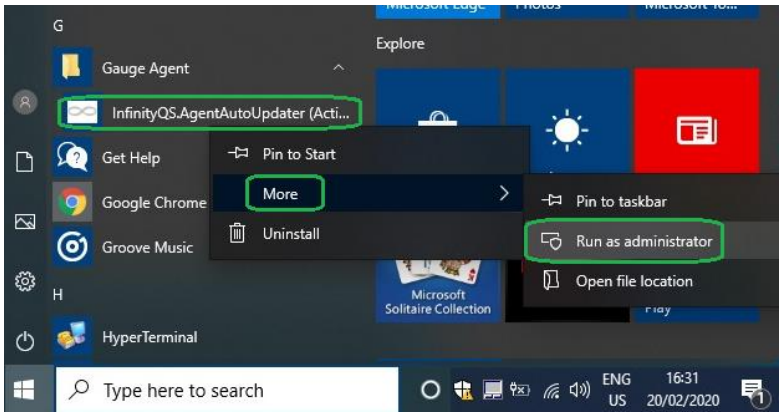
1.3.2. Stop the Agent Service using ***msc*** (Microsoft Services Console)



1.3.3. Confirm the box has internet connection

1.3.4. Using ***msc* start** the Agent service (InfinityQS Gauge Agent Service)

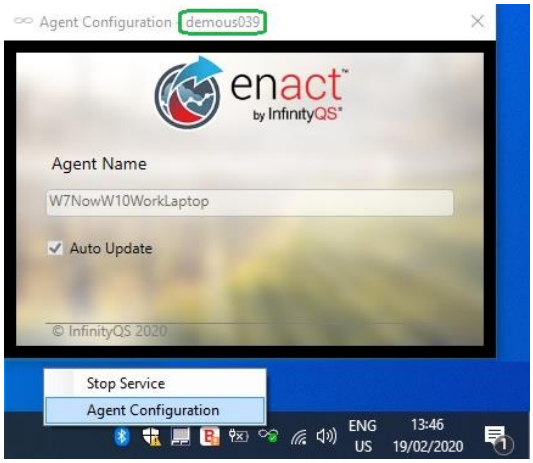
1.3.5. Use **Run as administrator** to launch the ***Updater***



1.3.6. If updated is Green, test Enact to see if values from gage come through, if not proceed to step 2 or repeat troubleshooting steps in Section C.

2. IF Gauge Agent is green yet Enact is not receiving the gauge value - Is the Agent Configuration associated to the correct Enact Company?

2.1. IF **YES**, proceed to step # 2.



2.2. IF **NOT** associated to the correct Company/Tenant, uninstall Gauge Agent, remove leftover files, reboot computer and then re-install Gauge Agent selecting the correct Enact Company to connect to. Then follow on-line initial Agent setup steps.

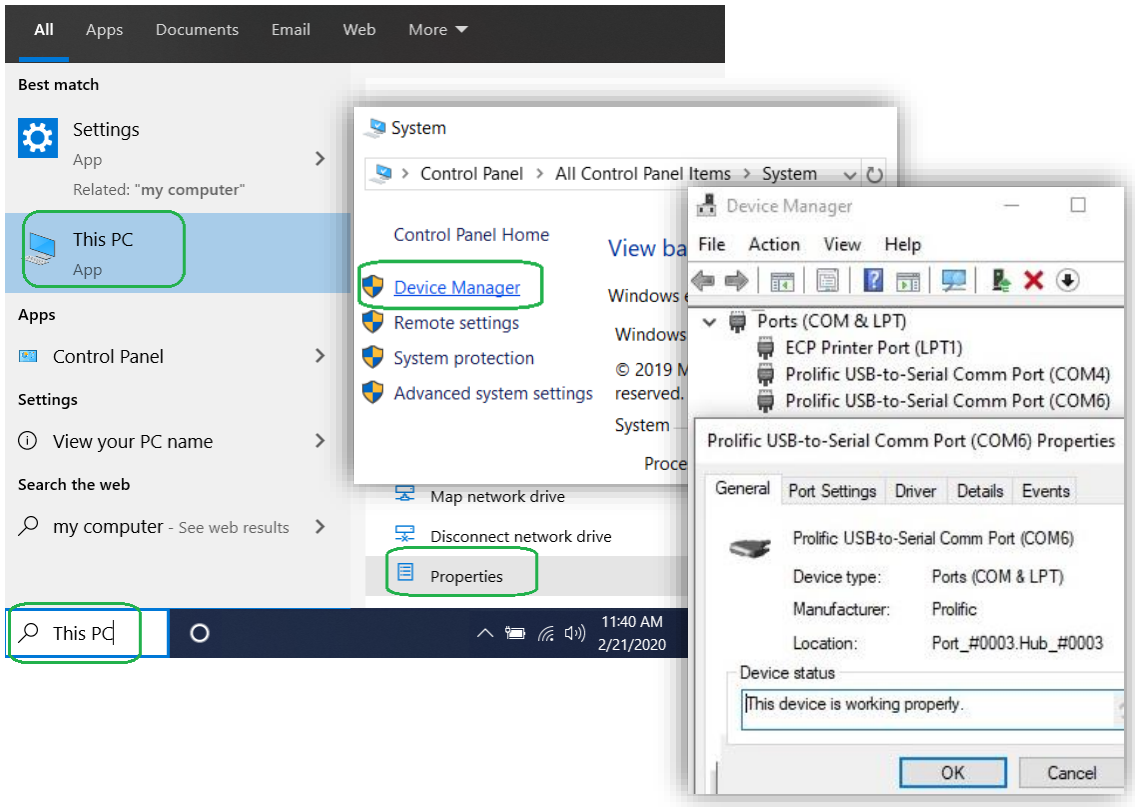
2.2.1. Leftover files would be in:

C:\Program Files (x86) \InfinityQS International\Enact\GageAgent

C:\ProgramData\InfinityQS International\Enact\GageAgent

3. IF Gauge Agent is green yet Enact is not receiving the gauge value check the LOG files. Log files are stored in ProgramData (C:\ProgramData\InfinityQS International\Enact\GageAgent). Each EXE (Agent and Updater) has its own unique folder ***InfinityQS.Enact.AgentService*** and ***InfinityQS.AgentAutoUpdater*** see Section E for details.

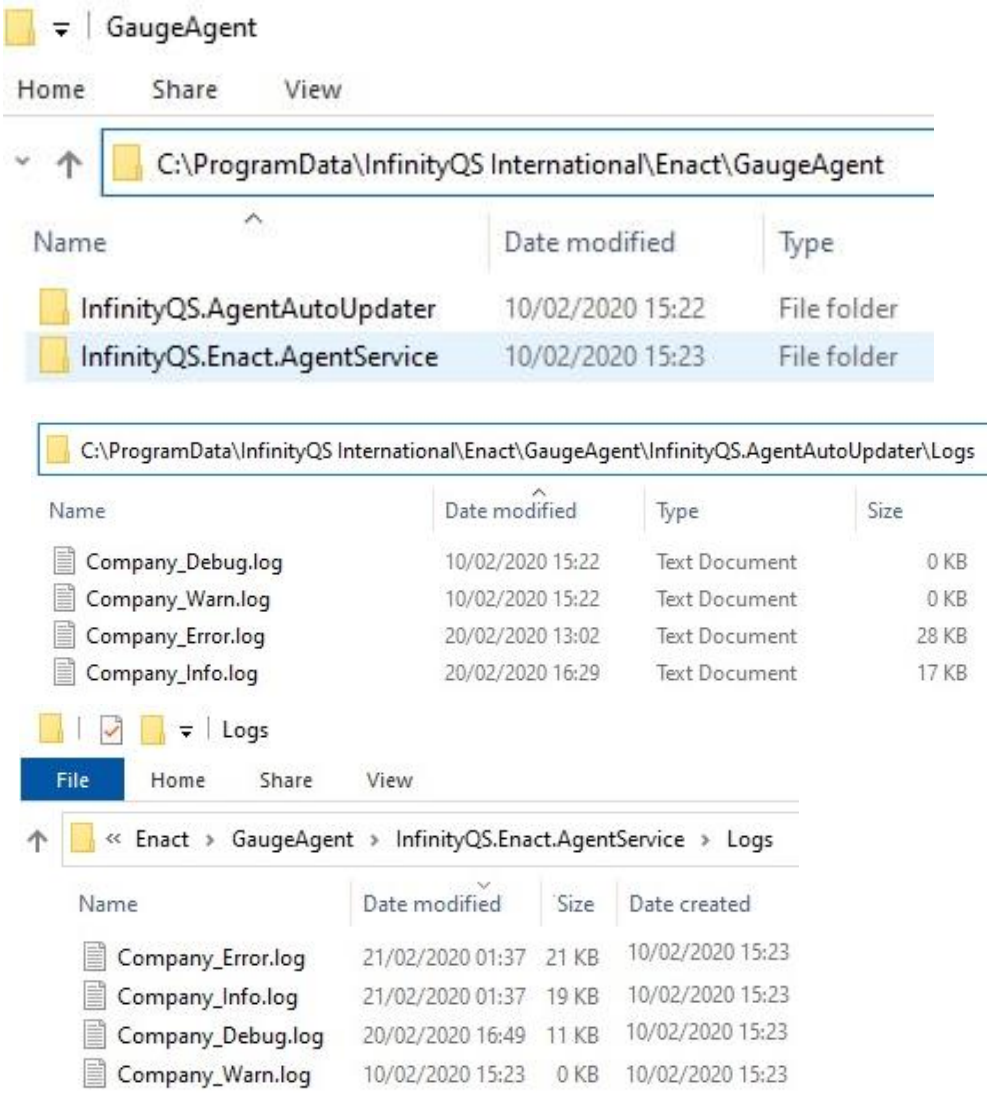
4. Same as with initial setup, local IT can use Putty or some other universal Port communication software to confirm the gage is communicating with the comport on the box with Agent service on it. It might also be applicable to use Device Manager to confirm the Port designation and behavior is as expected.



E – Gauge Agents software Log files

IF Gauge Agent is green yet Enact is not receiving the gauge value check the LOG files. Log files are in C:\ProgramData\InfinityQS International\Enact\GageAgent. The two main EXEs have their own folder ***InfinityQS.Enact.AgentService*** and ***InfinityQS.AgentAutoUpdater*** with four log files in each of them; **Company_*Debug*.log**, **Company_*Warn*.log**, **Company_*Error*.log** and **Company_*Info*.log**. As of 1Q 2020 there is no additional documentation on these log files, and it seems like they do not get purged. Tech Support recommends renaming these files once a month (or more often when they are 500 KB or larger in size).

1. Enact Gauge Agent Service and Updater log file paths and structure



2. C:\ProgramData\...**InfinityQS.AgentAutoUpdater**\Logs files. As mentioned before, the **Updater** runs in the system tray and displays different icons depending on the status of the EXE. Even though **Updater** (Gauge Agent Updater) does NOT need to be running in order for the **Agent Service** (InfinityQS Gauge Agent Service) to send gage values to an Enact Data Collection – **Updater** should always be running, to make sure that the box is running the newest version and also confirm some required settings are in place. Per some Tech Support exploring, it was confirmed that when the **Updater** system tray exe is running the following items are logged:

   2.1. If **Updater** is green in system tray, the ***Company_Info.log*** in the **Updater** Log folder will insert the entry below every 4 to 8 minutes:

      2.1.1. `2020-02-20 13:38:36,826 [7] INFO - Staggering check at02/20/2020 13:38:36 with update interval 380000`

   2.2. If there is an internet connection issue, the system tray **Updater** could still be green, yet the Updater's Company_***Info.log*** file could have an entry such as:

      2.2.1. `2020-02-20 13:00:22,666 [57] INFO - Network can be down`

      2.2.2. In addition, the Updater's Company_***Error.log*** file could have: `2020-02-20 13:00:33,899 [57] ERROR - App Error: One or more errors occurred.`

   2.3. If there is a comport issue, the system tray **Updater** could still be green, yet the **Updater** Company_***Info.log*** file could have an entry such as:

      2.3.1. `2020-02-20 12:17:23,742 [1] INFO - Show Auto updater service state: NoGaugeInterfaceConnection`

3. C:\ProgramData\...**InfinityQS.Enact.AgentService**\Logs files. The **Agent Service** (InfinityQS Gauge Agent Service) is used to send gage values to a web browser that has an Enact Data Collection dialog open. Per some Tech Support exploring, it was confirmed that when the **Agent Service** is running the following items are logged:

   3.1. If Agent Service is working, anytime an Enact web browser opens a Data Collection (that uses Gauge agent on this box) the ***Company_Info.log*** gets the inserts below:

      3.1.1. `2020-02-19 17:00:14,319 [92] INFO - Message recieved from gauge server`

      3.1.2. `2020-02-19 17:00:14,335 [92] INFO - Topic :portCommand`

      3.1.3. Anytime Agent Service sends a gage value, the ***Company_Info.log*** logs: `2020-02-20 13:09:20,110 [14] INFO - Record Identified, Actual Record: 13`

   3.2. If there is an internet issue, the **Agent Service** Company_***Info.log*** file could have an entry such as:

3.2.1. `2020-02-20 13:01:20,110 [7] INFO - Error in token generation. Check internet connection`

3.2.2. In addition, the **Agent Service** Company_***Error.log*** file could have: `2020-02-20 13:01:39,232 [46] ERROR - An Error occurred while sending the request. The remote name could not be resolved:`

3.3. The **Agent Service** inserts entries in three log files (Company_***Warn.log*** does not log anything) if there is a port issue. The entries below were caused on a W10 box by 1) Gauge Agent Service stopped, Gauge Updater not running, 2) Connecting to Com4 with Putty software, 3) Gauge Agent Service started

C:\ProgramData\InfinityQS International\Enact\GageAgent\InfinityQS.Enact.AgentService\Logs*Company_**Debug.log***

C:\ProgramData\InfinityQS International\Enact\GageAgent\InfinityQS.Enact.AgentService\Logs*Company_**Error.log***

C:\ProgramData\InfinityQS International\Enact\GageAgent\InfinityQS.Enact.AgentService\Logs*Company_**Info.log***

3.3.1. **Info.Log** 12:17:24,351 [6] INFO - Token Generated

3.3.2. **Info.Log** 12:17:24,367 [5] INFO - Referesh Token call

3.3.3. **Info.Log** 12:17:24,586 [6] INFO - Agent set up correctly

3.3.4. **Info.Log** 12:17:25,679 [6] INFO - At Least One Gauge Interface Connection Found

3.3.5. **Info.Log** 12:17:25,679 [6] INFO - Port Initialized

3.3.6. **Info.Log** 12:17:25,695 [6] INFO - Start listening on PORT.

3.3.7. ***Error***.Log 12:17:25,695 [6] ERROR - Serial port start listening error. Access to the port 'COM4' is denied.

3.3.8. ***Error***.Log 12:17:25,711 [6] FATAL - System.UnauthorizedAccessException: Access … 'COM4' is denied.

3.3.9. **Info.Log** 25,742 [11] INFO-Pipe{"Id":15,"Message":"{\"Name\":\"16\",\"SendToContinuousPollMonitor…

3.3.10. **Info.Log** 12:17:25,758 [11] INFO - SyncInterfaceStateOnService

3.3.11. ***Debug.Log*** 12:17:25,773 [6] DEBUG - {"…"monitoringState":null,"…}

3.3.12. ***Debug.Log*** 12:17:25,789 [6] DEBUG - Alive :True

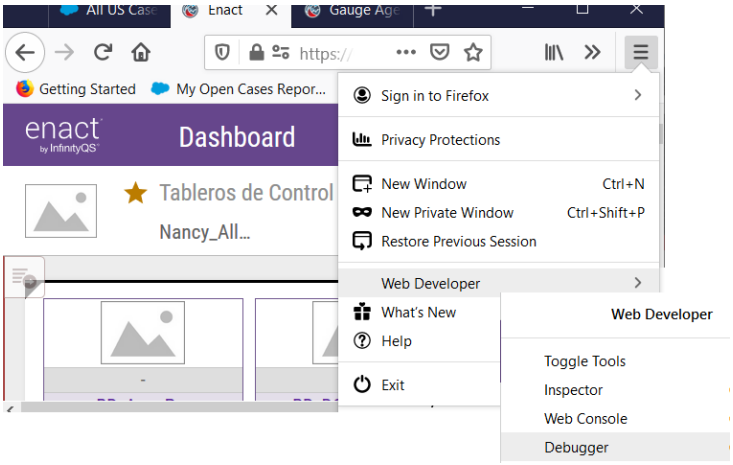
3.3.13. **Info.Log** 12:17:25,820 [6] INFO - Timestamp :2/20/2020 5:17:25 PM, Value :

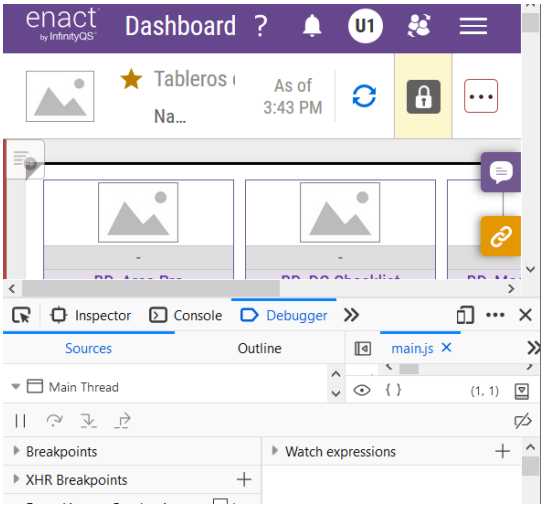
3.3.14. ***Debug.Log*** 12:17:25,836 [6] DEBUG - {"…"monitoringState":null,"…}

3.3.15. ***Debug.Log*** 12:17:25,914 [6] DEBUG - Alive :True

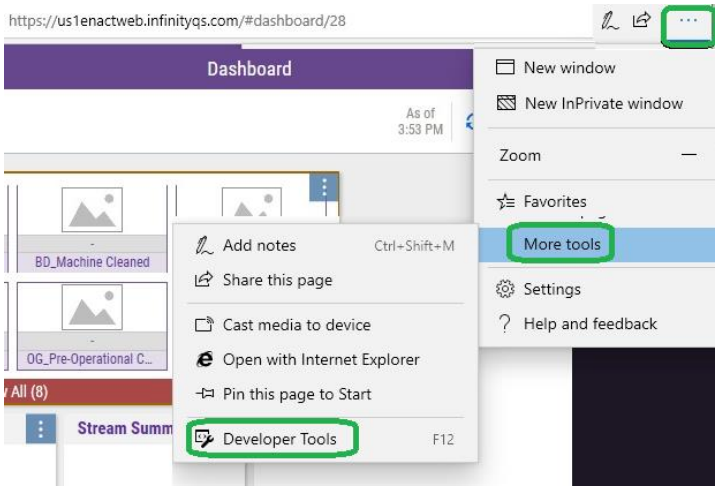
F – Troubleshooting specific Internet browser

1. Local IT support should be familiar with the web browser's ***Web Developer*** debugging tools. For example, in Firefox, user needs to click on the menu button, then click Web Developer and click on Debugger, notice Debugging section appears below the Enact screen.

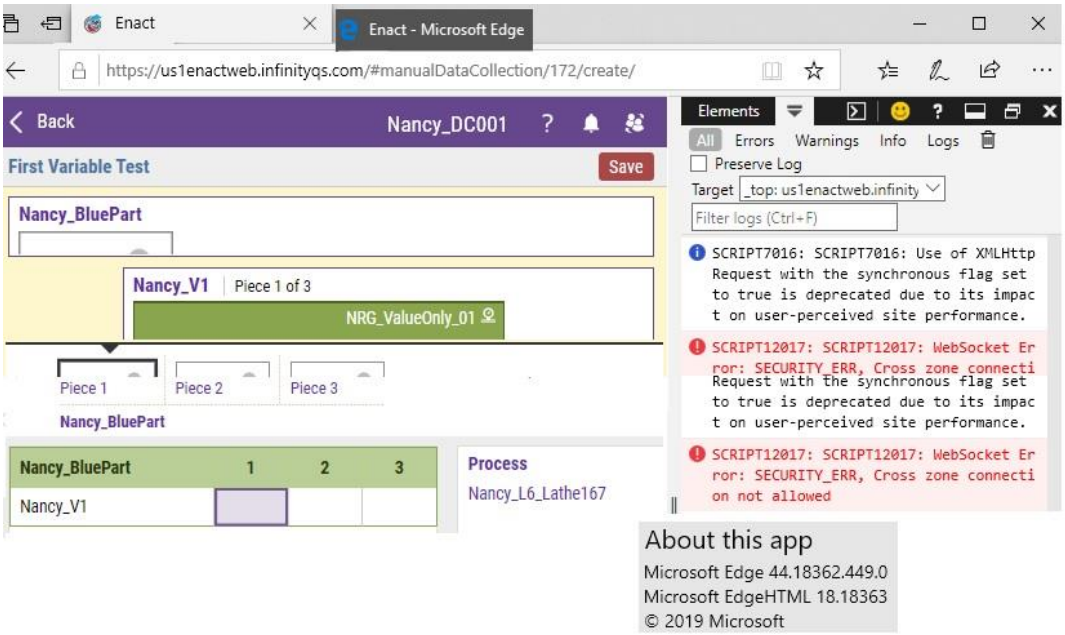




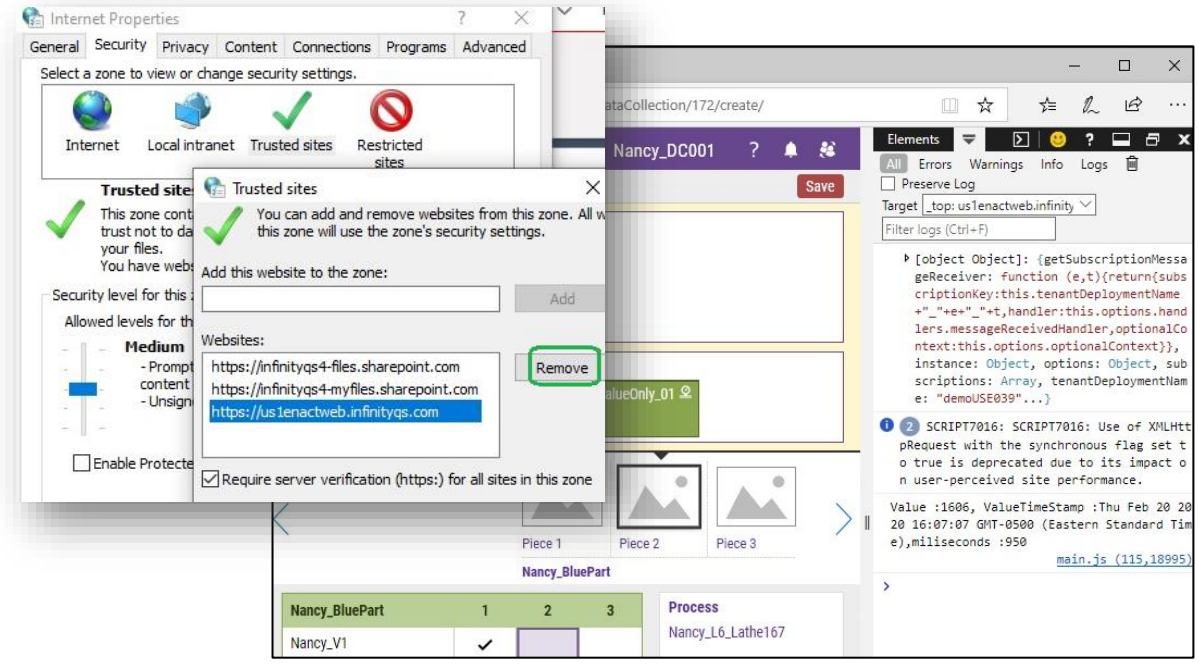
2. Using the debugging tool, local IT can look for web browser specific issues (outdated version, pending updates, known bugs, etc.). If local IT is not available, use a different web browser. When troubleshooting web browser issues, obtain the web browser's build and version.
3. Below are the troubleshooting steps for a scenario in which an Enact Data Collection Data entry window was not receiving the gauge value in Edge, yet Chrome and Firefox on the same W10 box received the gage values.
   3.1. Local IT enabled Web Debugger in Edge



3.2. Click on the Data Collection to open the Subgroup Add dialog, notice error



3.3. Local IT searched that Web Developer error and after several troubleshooting steps, the root cause was an issue with Enact listed in the Trusted sites. To fix the issue, the Enact ***url*** was Removed from Trusted sites.



G – Enact Gauge Agent Best Practices

Gauge Agent

- Each Gauge Agent installation MUST be given a unique name
- Enact requires one agent for every workstation with a gauge connection

Gauge Interface

- Supports configuration of special port initiation and termination strings
- Special strings not typically needed, so many different kinds of devices can use the same gauge interface

Gauge Format

- Enables extraction of quality data from a gauge's output string
- Gauge Formats can be shared among similar make/model gauges
- Some gauges allow output strings to be configured, creating possibility of even greater reuse of gauge formats
- Enact requires one instance for every unique output string among all your gauges

Gauge Interface Connection

- COM – specific workstation port number for gauge connection along with serial parameters (baud, parity, etc.)
- TCP/IP – specific IP address used by a gauge
- Also defines Gauge Agent name and Gauge Interface selections
- Enact requires one Gauge Interface Connection for each gauge/workstation connection

Gauge Device

- Final configuration between a specific gauge and a specific workstation
- Name is used for selection when gauge entry is desired during data collection. Use generic names to facilitate reuse (e.g. multiple makes/models of scale can be used to perform the same net weight test across an organization).
- Enact requires one Gauge Device for each gauge/workstation connection