Configuring ChartService in QI Analyst 8.0

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Introduction

ChartService is used to monitor charts constantly without opening QI Analyst. ChartService can run constantly, evaluating new data and triggering Alarms twenty four hours a day, seven days a week, without the chart being open anywhere in the enterprise.

Configuring and monitoring the ChartService in QI Analyst is a two-step process:

- Use the ChartService Administration dialog to configure charts and dashboards and to start/stop the ChartService.

- Use the ChartService Viewer to view the dashboards and charts' statuses in real-time.

This *Tech Note* provides step by step procedure to configure ChartService for constant monitoring.

Assumptions

- This Tech Note assumes you are familiar with QI Analyst

- QI Analyst is installed with Process database(s), data table(s) and columns ready to use on the Node to be configured as Chart Server.

- You have local administrator rights on the Node to be configured as Chart Server.

Application Version

- QI Analyst 8.0 SP1 P01

Note: This Tech Note assumes that you have Administrator rights on the server where the QIAdminDBChange and QIDBServerNameEdit utilities are run.

Prerequisites

1. Open QI Controller and verify the process database(s) is listed as a Network process database as shown in Figure 1 (below). Then close the QI Controller.
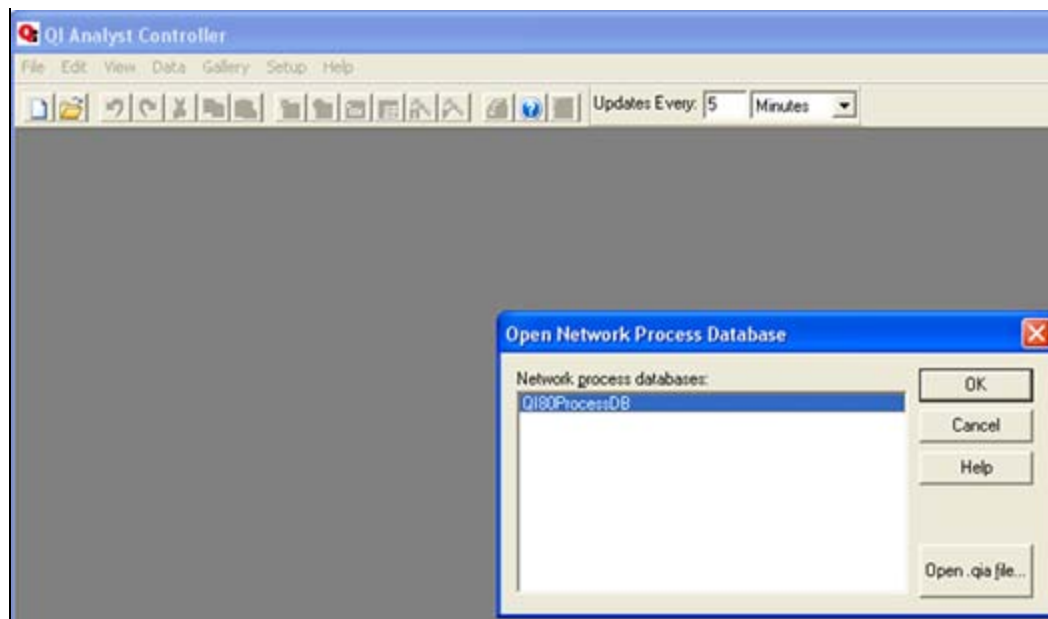
FIGURE 1: VERIFY YOU HAVE NETWORK PROCESS DATABASE

2. Close all QI Analyst windows including Application Server using QI Objects, front-end applications like InTouch or VB using QI Objects and ActiveX Controls.

3. Open Task Manager and verify that no QI Processes are running (Figure 2 below). If a process is running, click **End Process** to stop it, then close Task Manager.

   • QI Analyst Process are **QI Controller.exe**, **QI Workstation.exe**, **QINotify.exe**, **QIAAlarmProvide.exe**, **QIChartServer.exe**, **QIAChartViewer.exe**.
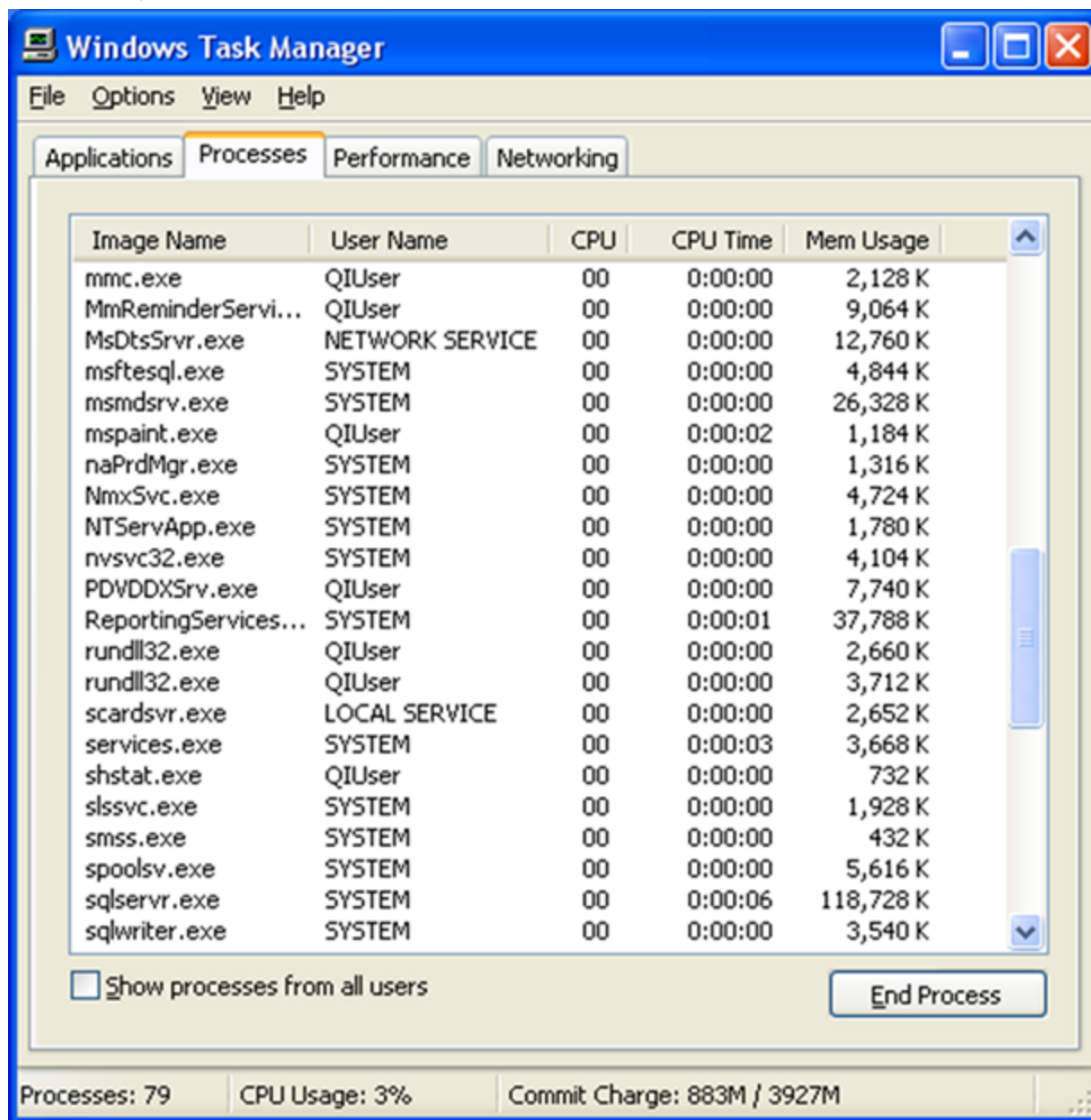
FIGURE 2: END ALL QI ANALYST PROCESSES

4. Open Windows Services and verify the following as shown in Figure 3 (below).

- **QIChartServer** is the only QI Analyst Service listed.
- QIChartServer Startup Type is **Manual**.
- QIChartServer is using the Local System account.

Note: If **QINotify** is listed as a service, it is possible that the chart service configuration has already been tried on this Node. In that

case do not proceed further, but contact technical support for further help.
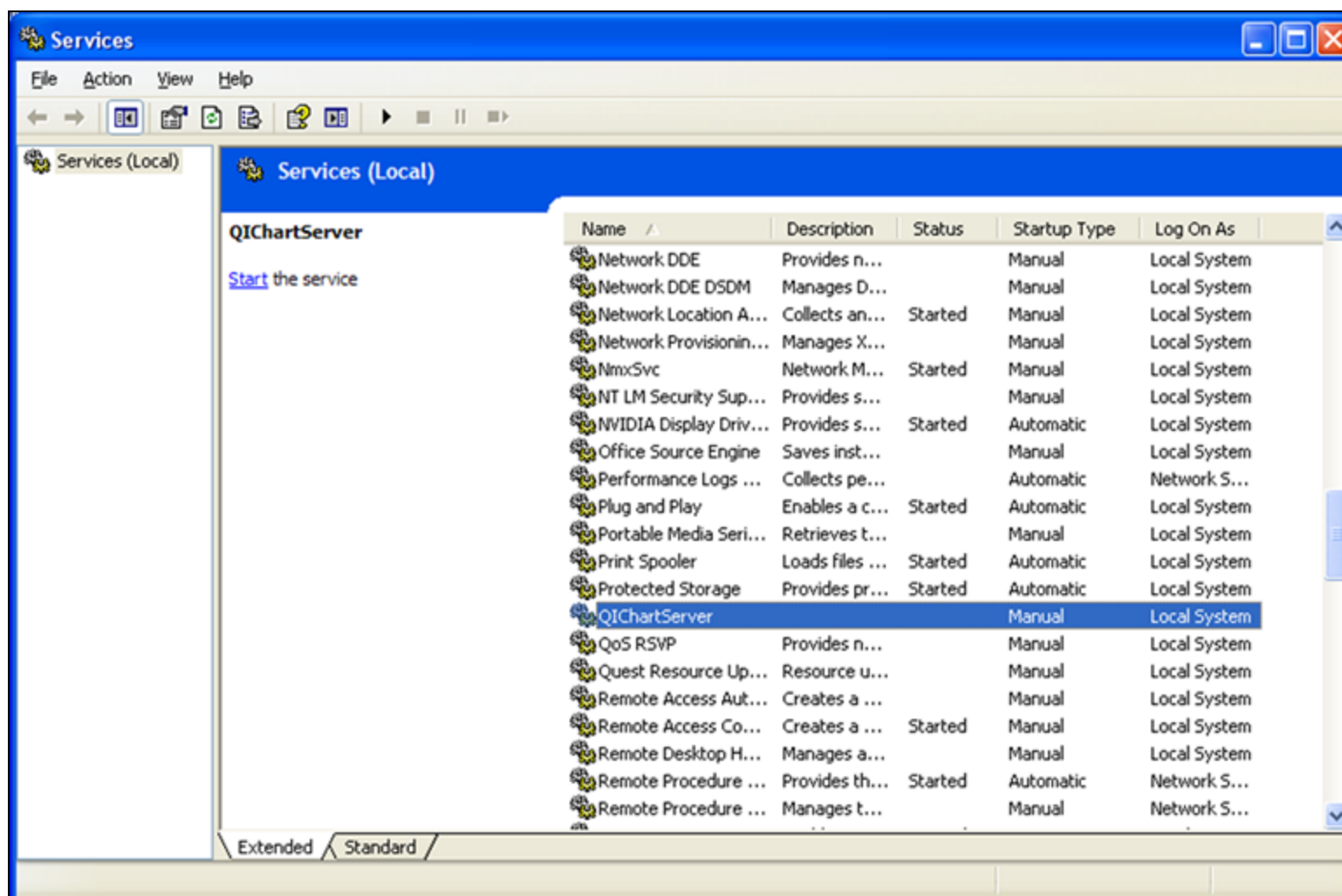

FIGURE 3: VERIFY QICHARTSERVER IS THE ONLY QI ANALYST SERVICE LISTED

Configure QI User Permissions

Give the following permissions to the user that will be configured to run QIChartService.

In this example **QIUser** is the user that will be configured to run QIChartService. QIUser is a local user on Node ROOPAHNB23

1. Click **Start > Settings > Control Panel > Administrative Tools > Local Security Policy > Local Policies > User Rights Assignment**.

2. Click **Log on Locally**.

3. Go to its Properties and add **QIUser** to the list (Figures 4 and 5 below)
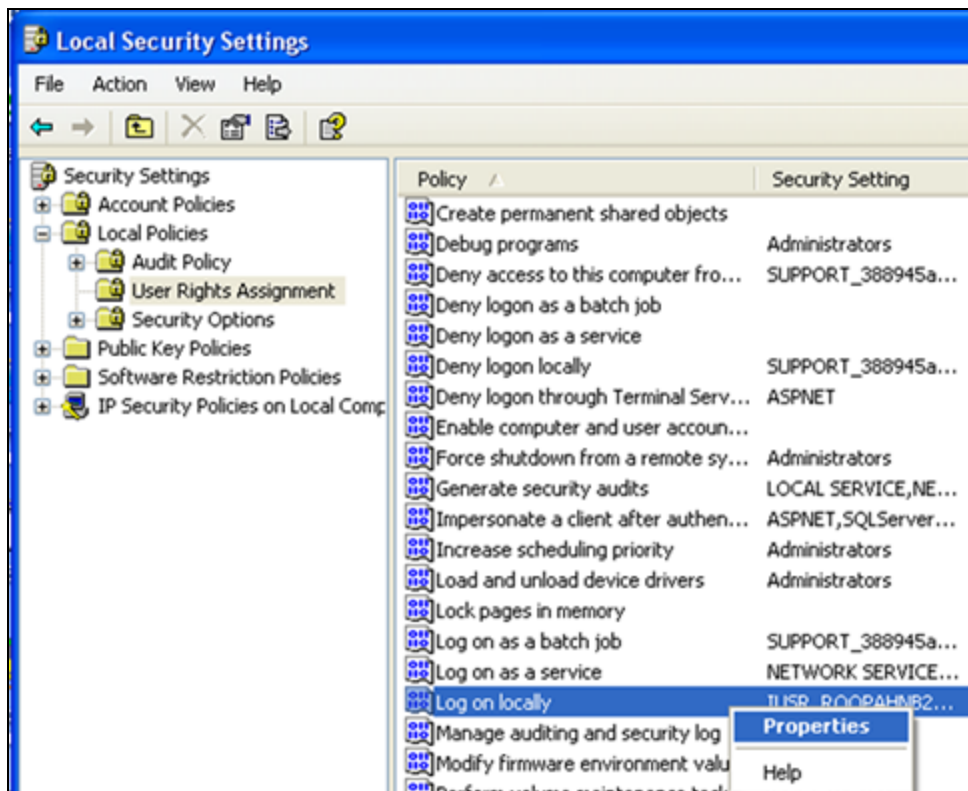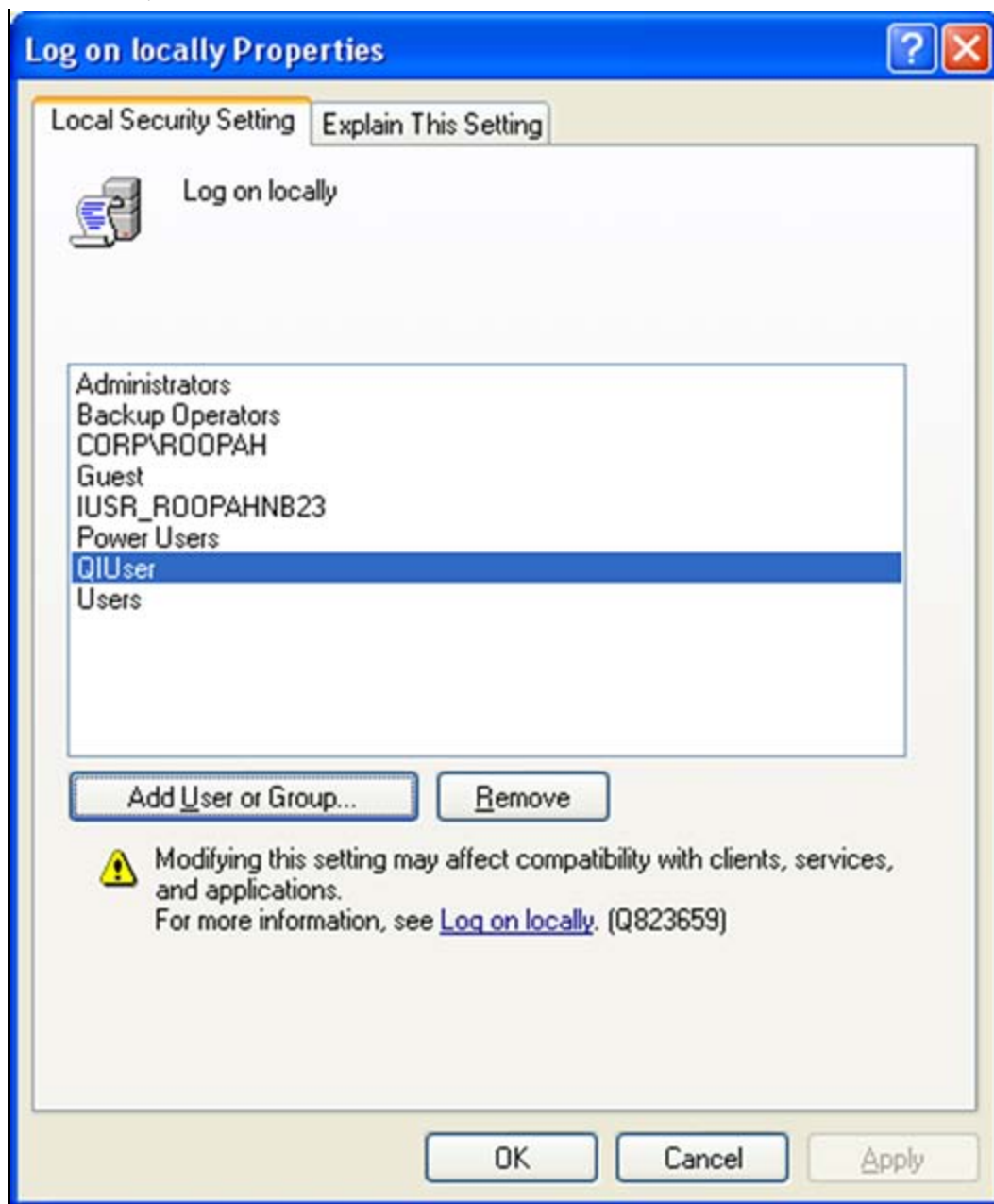
FIGURE 4: OPEN LOG ON LOCALLY PROPERTIES

FIGURE 5: ADD USER TO LOG ON LOCALLY LIST

4. Click **Start > Settings > Control Panel > Administrative Tools > Local Security Policy > Local Policies > User Rights Assignment**.

5. Select **Log on as a Service** (Figure 6 below).

6. Go to its Properties (right-click and click **Properties**) and add the QIUser to the list (Figures 6 and 7 below).
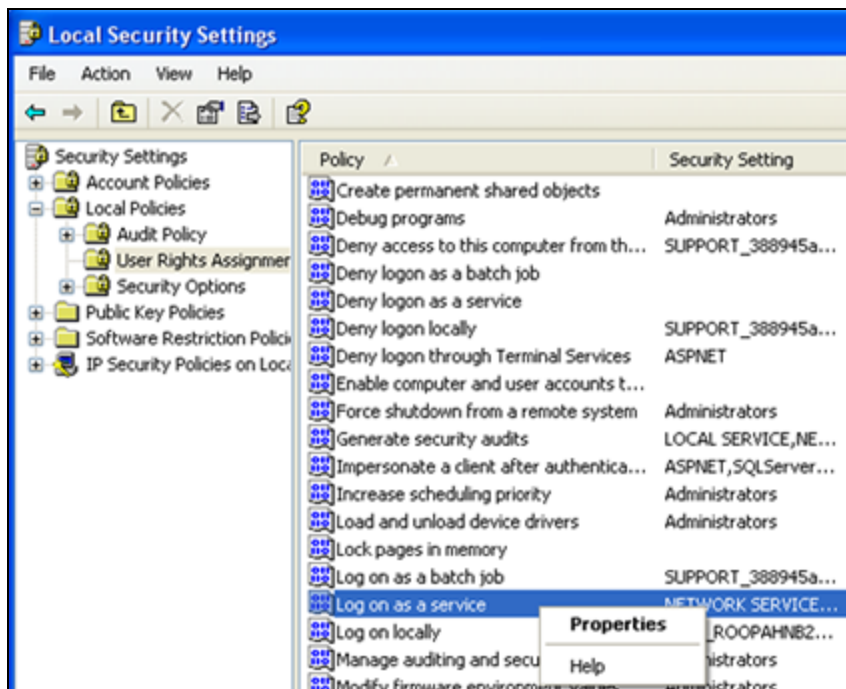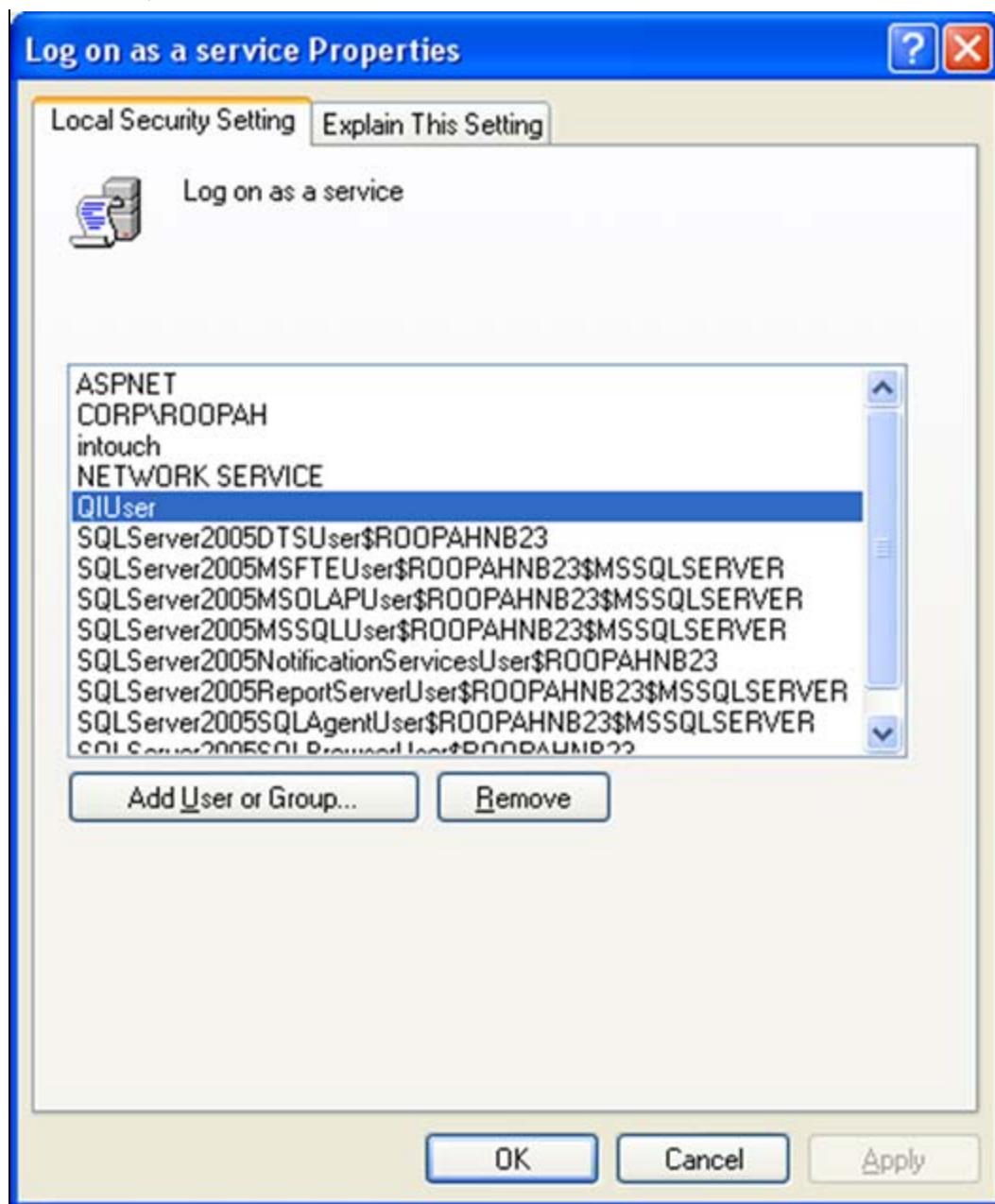
FIGURE 6: OPEN LOG ON AS A SERVICE PROPERTIES

FIGURE 7: ADD USER TO LOG ON AS A SERVICE LIST

7. Click **Start > Settings > Control Panel > Administrative Tools > Computer Management > Local Users and Groups > Groups**.

8. Click the **Administrators** group.

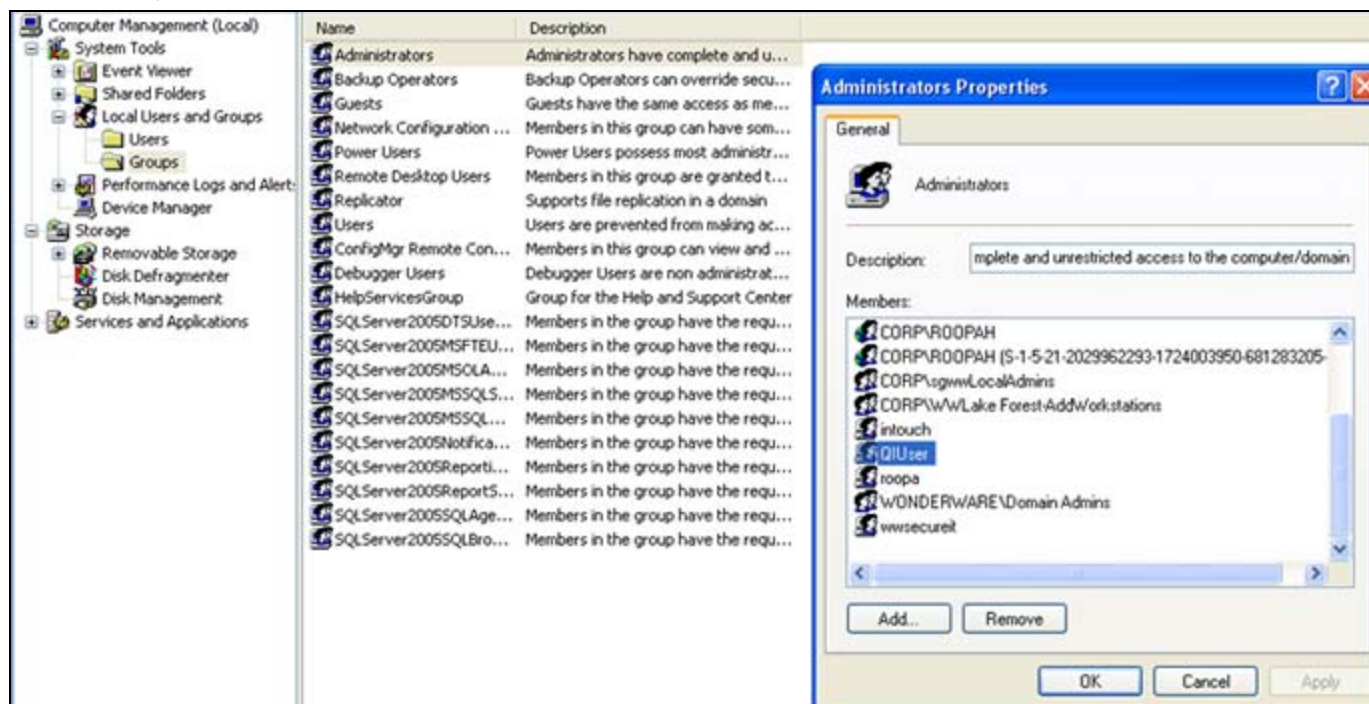9. Go to its Properties and add the **QIUser** to the list (Figure 8 below).

FIGURE 8: GIVE USER LOCAL ADMINISTRATOR RIGHTS

Check for Port 40000 Availability

QIChartService uses Port 40000. You must verify that the Windows Firewall, Antivirus software or any other software/application on that Node is not blocking or reserving this port.

Add Extra User Permissions

If the user that is set up to run QI Chart Service will be different than the *current* windows login user, complete the following steps.

1. Click **Start > Settings > Control Panel > Administrative Tools > Component Services**.

2. Select **My Computer**.

3. Right-click and click **Properties** (Figure 9 below).

FIGURE 9: COMPONENT SERVICES > MY COMPUTER PROPERTIES

4. On **My Computer Properties**, click the **COM Security** tab.

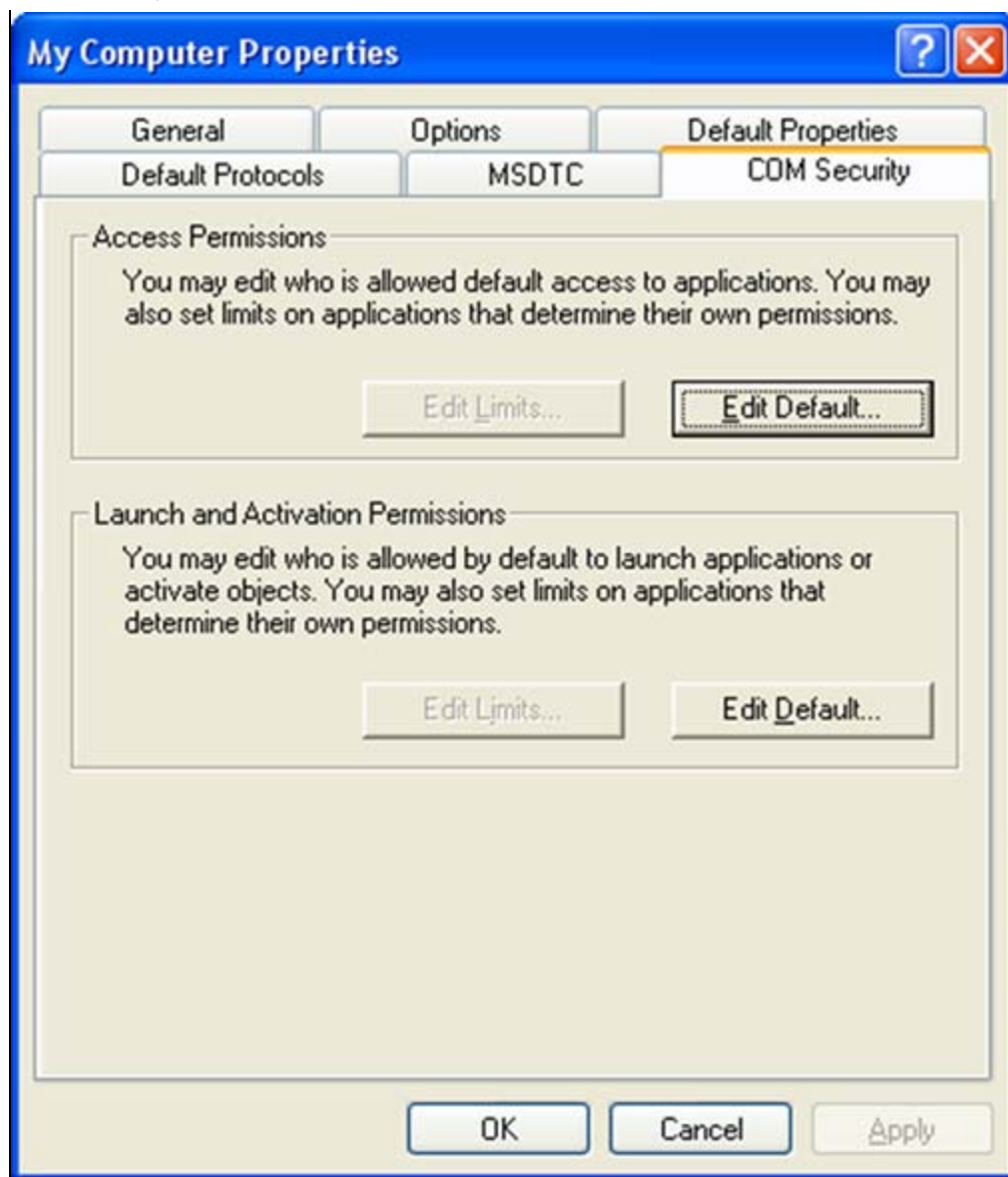5. In the Access Permissions area, click **Edit Default** (Figure 10 below).

FIGURE 10: OPEN COM SECURITY ACCESS PERMISSIONS

6. Add the Windows login user, the User configured to run QI Chart Services, System, and all other people who will be logging into this Node while Chart Service is running.

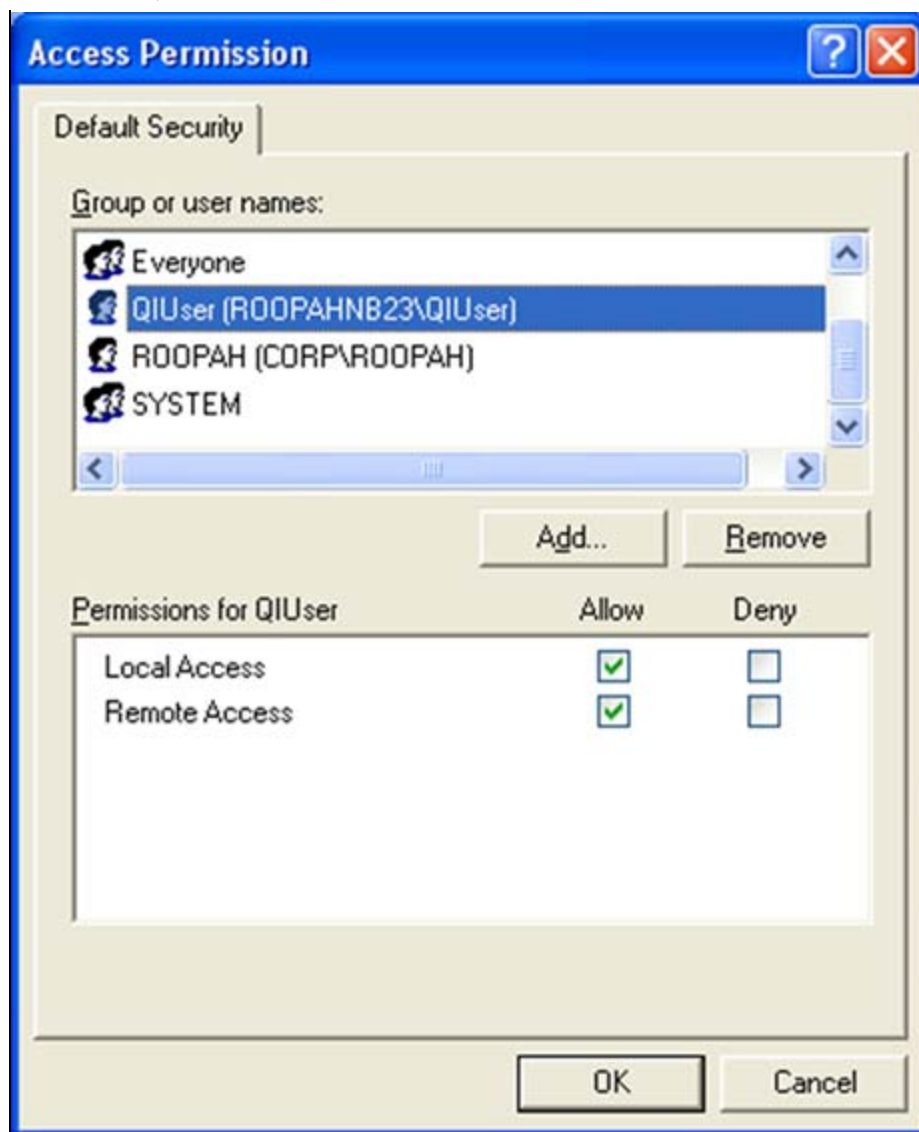7. Click **Allow** to provide **Local** and **Remote Access Permissions** (Figure 11 below).

FIGURE 11: GIVE LOCAL ACCESS PERMISSIONS TO USERS

Configuring QI Chart Service Administration

1. Click **Start > All Programs > Wonderware > QI Analyst 8.0 > QIChartService Administration**.

2. Login using the QI Analyst account of QI Controller/QI Workstation (Figure 12 below). If you installed QI Analyst with **Integrated** security you are logged in automatically using your current Windows login account.
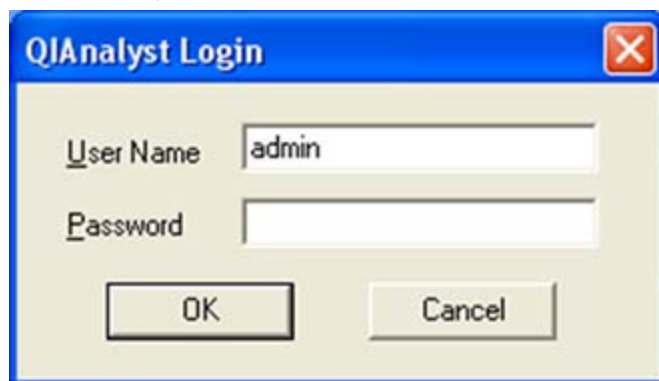
FIGURE 12: LOGIN USING QI ACCOUNT

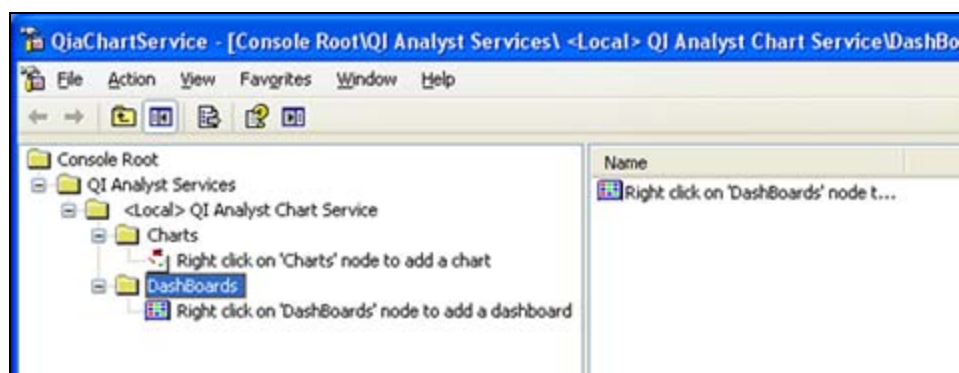QI Chart Service Administration will appear (Figure 13 below).

FIGURE 13: QI CHARTSERVICE WITHOUT CONFIGURATION

3. Create new Charts and Dashboards in QI Chart Service Administration as explained in Chapter 12 **QI Analyst Chart Service and Viewer** (p.p. 255 – 258) of the QI Analyst Controller Manual.

   You can view the Manual by clicking **Start > All Programs > Wonderware > QI Analyst 8.0 > Books > QI Analyst Controller User Manual**.

   QI Chart Service Administration includes two charts, **AdjustedDiameter-XbarR**, **Diamter-IMR**, and one dashboard **Ring1** (Figure 14 below). Dashboard Ring1 includes both the charts.
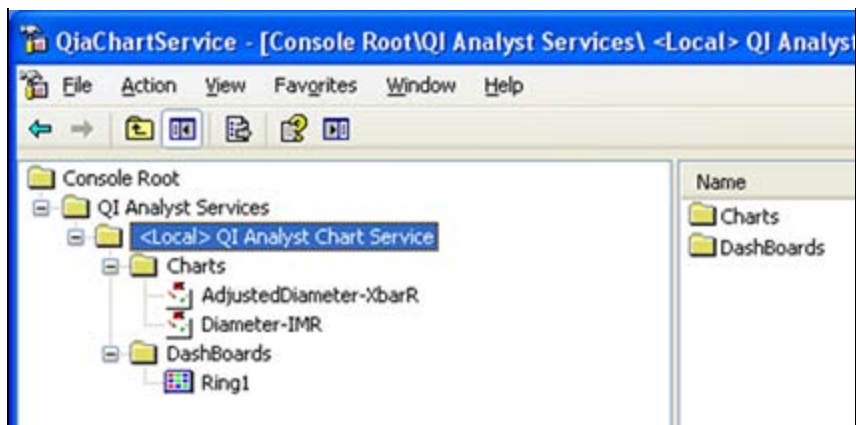
FIGURE 14: QI CHART SERVICE WITH TWO CHARTS AND ONE DASHBOARD

4. Right-click **<Local>QI Analyst Chart Service**, then click **Configure Chart Service** (Figure 15 below).
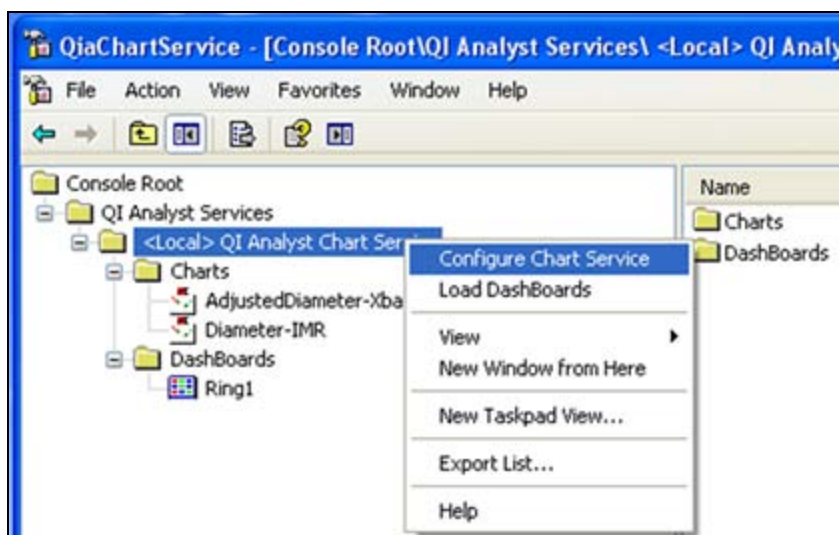

FIGURE 15: CONFIGURE CHART SERVICE SETUP

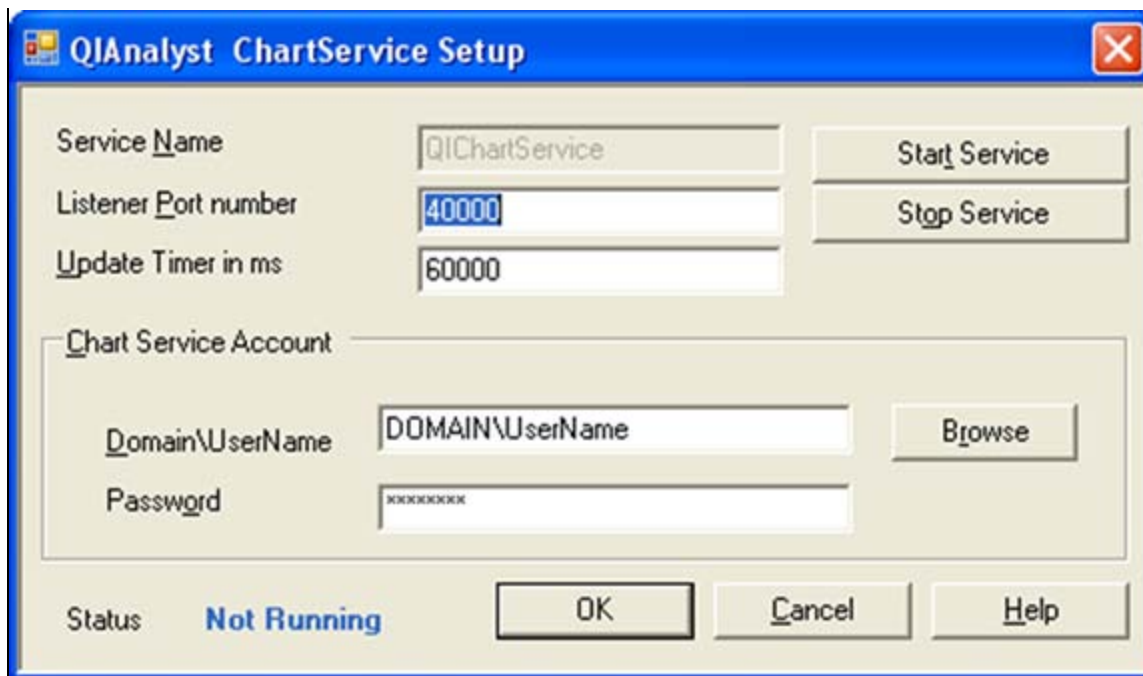5. In the Chart Service Account area, click **Browse** (Figure 16 below).

FIGURE 16: BROWSE TO ADD A CHART SERVICE ACCOUNT

6. To add an account, type **QIUser** and click **Check Names** to find that account (Figure 17 below).
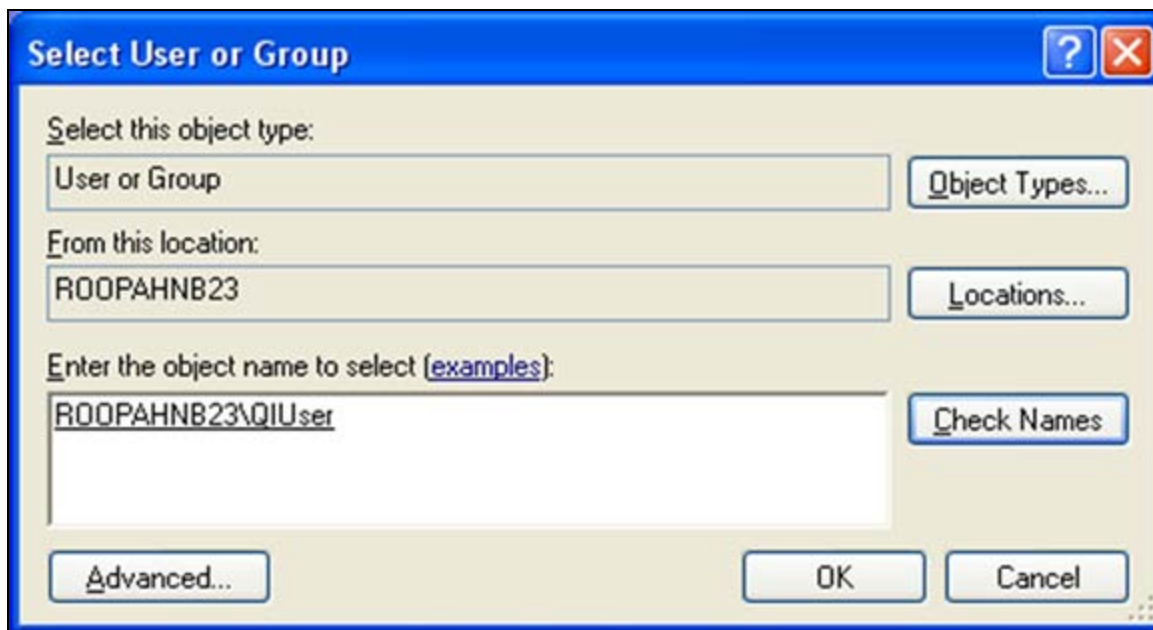
7. Click **OK** to select that account.

FIGURE 17: SELECT AN ACCOUNT TO RUN CHART SERVICE

8. Type the correct Password for **QIUser**. Change the **Update Timer** value if desired (Figure 18 below). The default is one minute.

   DO NOT change the Listener Port number and **DO NOT START THE SERVICE YET**.
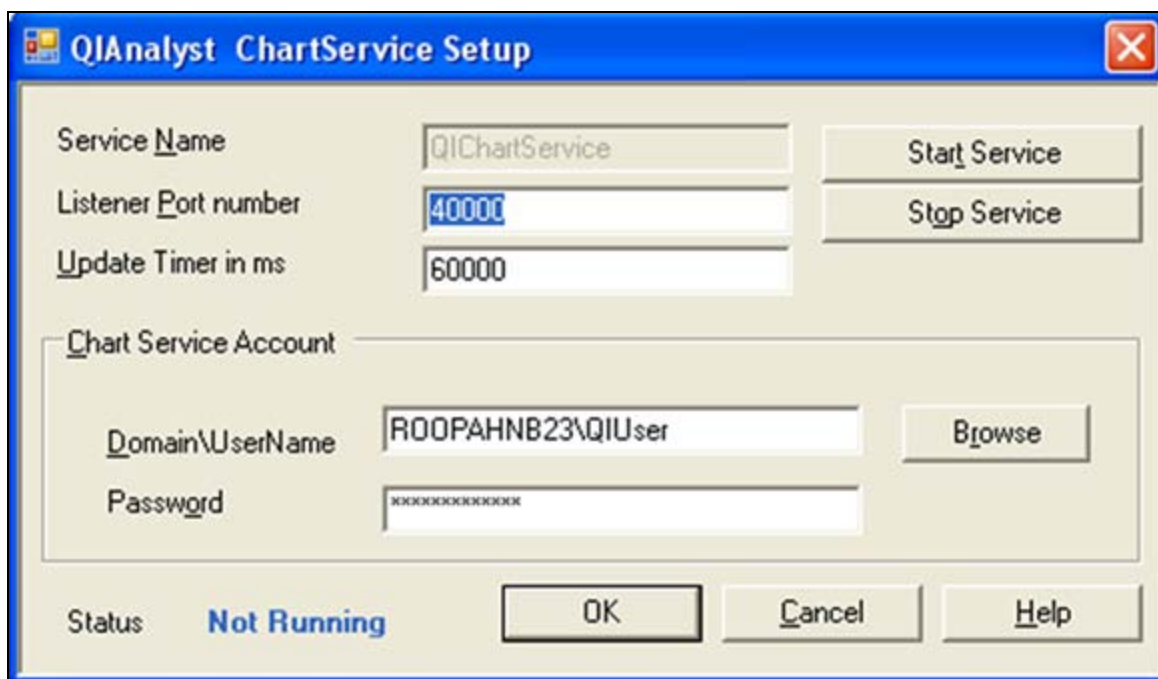

FIGURE 18: CONFIGURE CHART SERVICE SETUP DETAILS

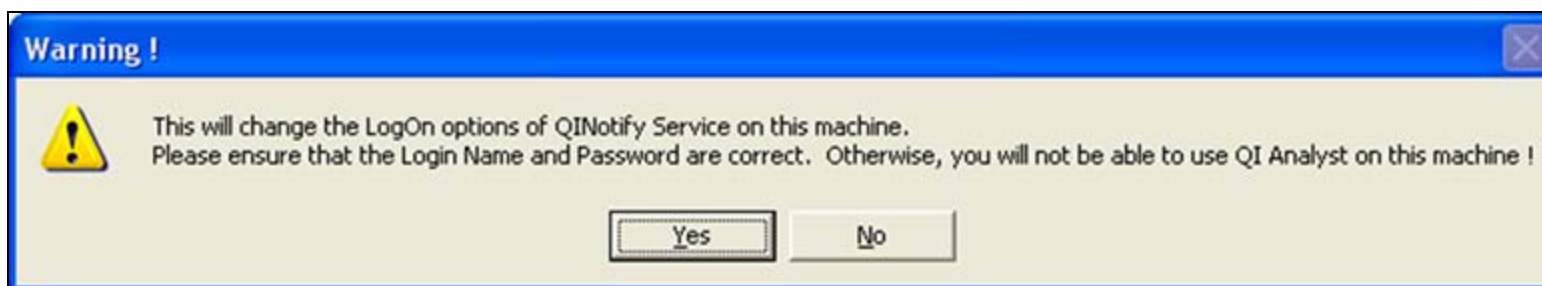9. Click **OK**, and a warning message appears (Figure 19 below).

FIGURE 19: CLICK YES TO PROCEED

10. Click **Yes** if the Login Name and Password are correct. A Success message appears (Figure 20 below).

FIGURE 20: CLICK OK

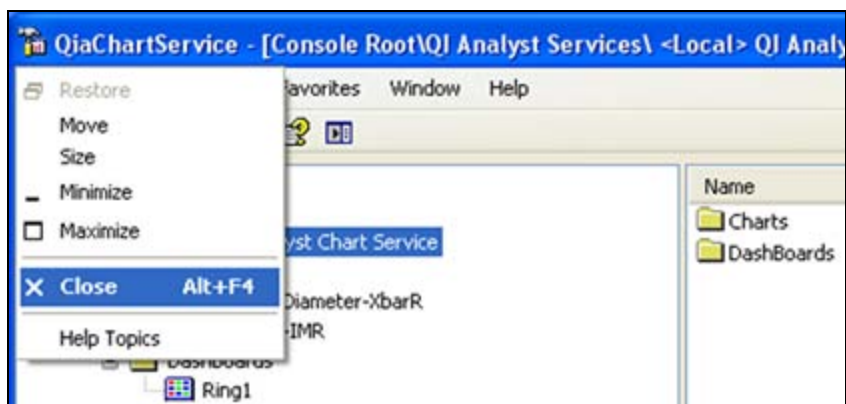11. Click **OK**. Close QiaChartService Administration (Figure 21 below).

FIGURE 21: CLOSE QIACHARTSERVICE ADMINISTRATION

12. Open Windows Services and verify the following are true (Figure 22 below).

- **QI Notify** is listed as a service, Status is not started, its Startup Type is **Manual** and its Log On As value is **.\QIUser**.
- **QIChartServer** is not started, its Startup Type is **Manual** and its Log On As value is **.\QIUser**.

Note: QI Notify and QIChartServer services should have the same account. If QI Notify is not listed as a service then QI Chart Service was not configured properly. In that case, re-implement this tech note from the beginning with a different account.
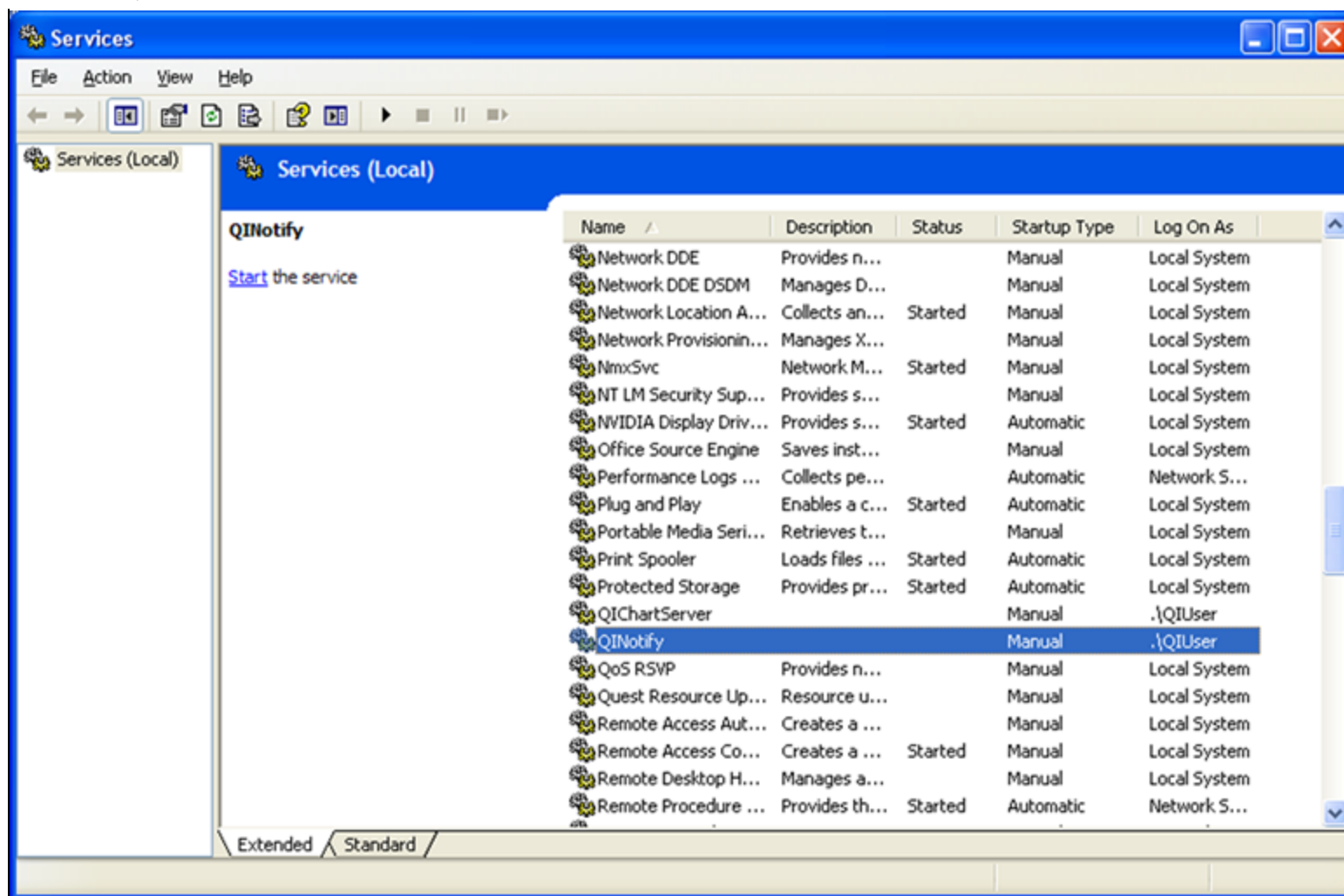
FIGURE 22: VERIFY SERVICES AND ACCOUNTS LOG ON VALUES

13. Reopen QI Chart Service Administration, select and right-click **<Local> QI Analyst Chart Service**.
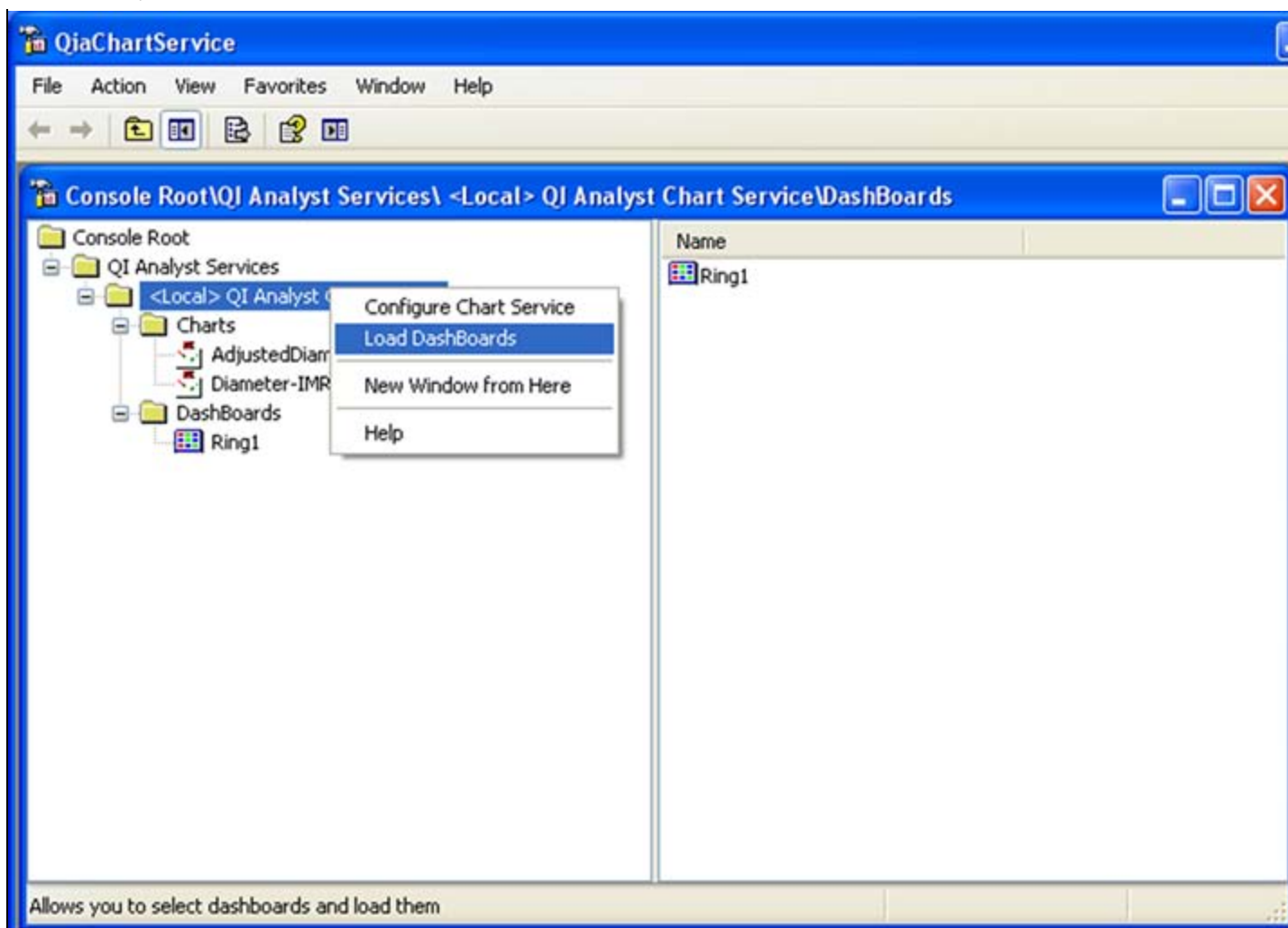
14. Click **Load DashBoards** (Figure 23 below).

FIGURE 23: LOAD DASHBOARDS

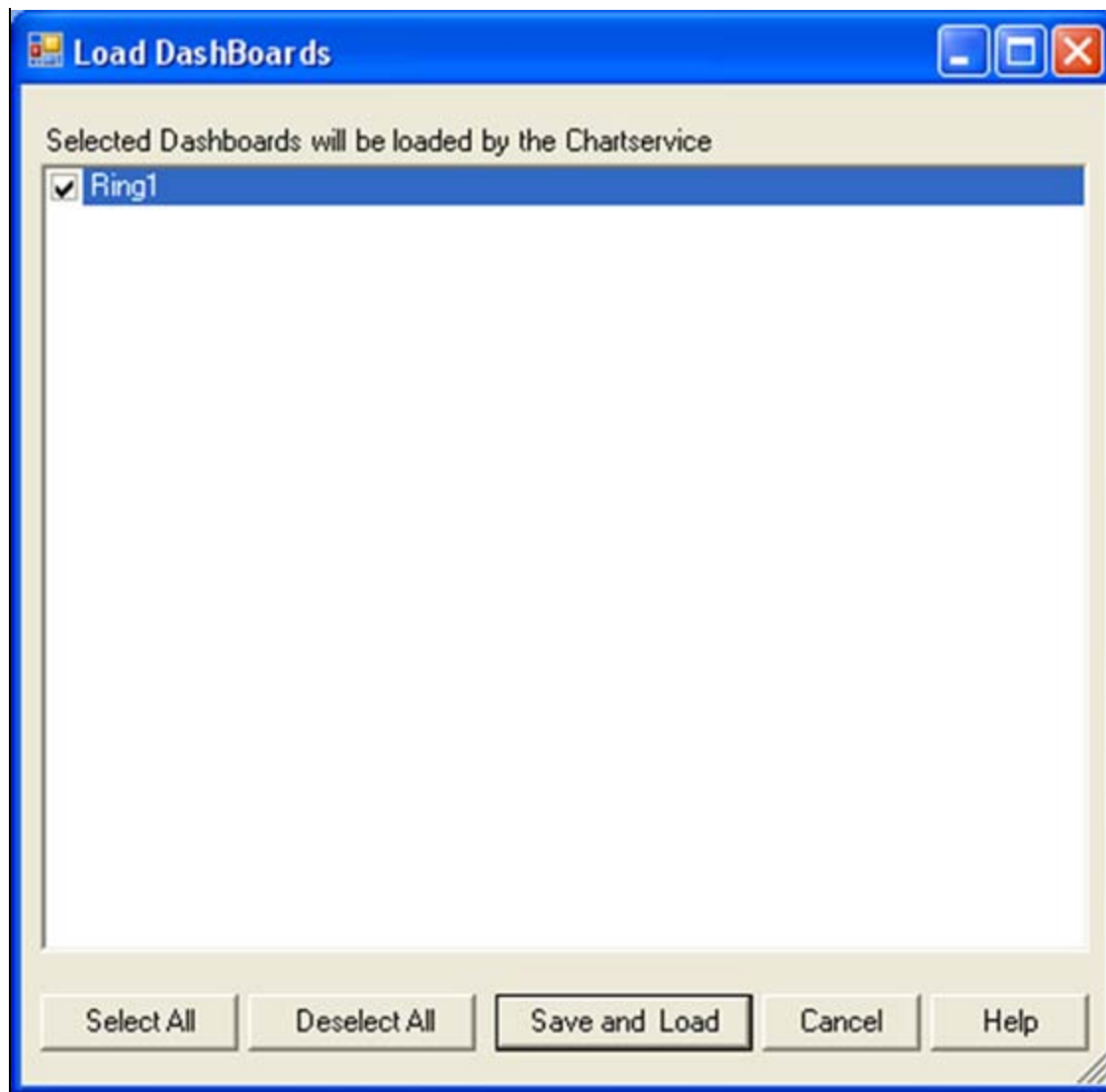15. Select desired Dashboard(s) (Figure 24 below), then click **Save and Load**.

FIGURE 24: LOAD SELECTED DASHBOARDS

The **Chart Load Confirmation** message box appears (Figure 25 below).

16. Click **Yes** to close that message and return to Chart Service Administration dialog.

Chart Load Confirmation

⚠ This action will load charts from the above selected dashboards.
It could take several minutes to load/reload charts depending on your hardware and the number of charts configured.
All ChartService Viewers will be temporarily disconnected. All clients will need to reconnect to the ChartService to see the changes.
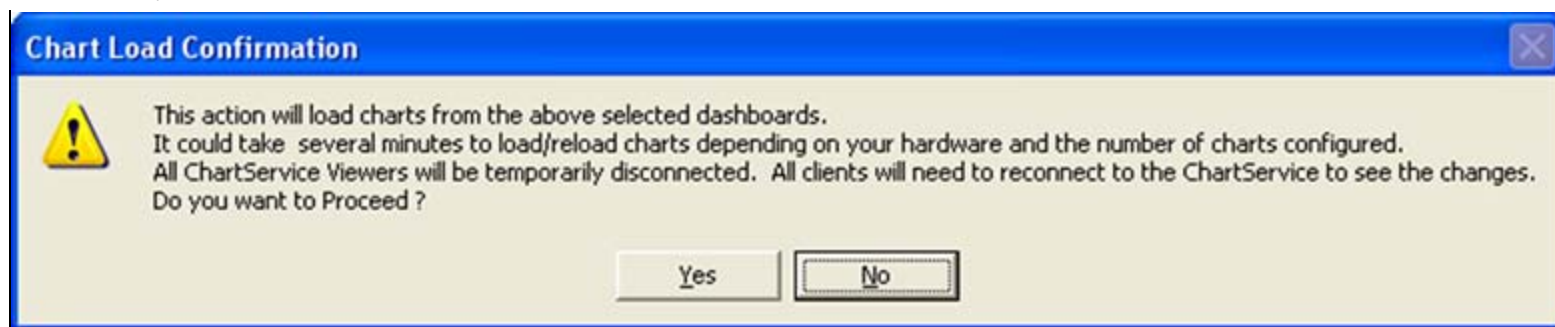Do you want to Proceed ?

[Yes]   [No]

FIGURE 25: ACKNOWLEDGE CHART LOAD

17. Open QIAnalyst ChartService Setup and verify the Status is **Not Running**, then click **Start Service** (Figure 26 below).
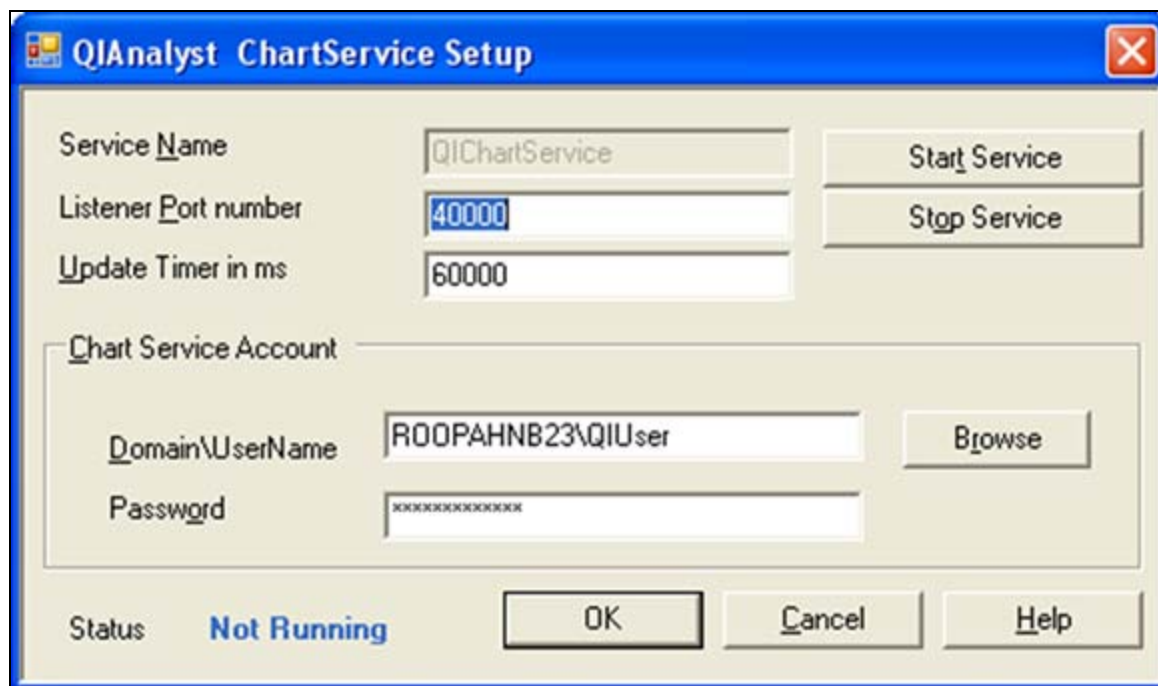
QIAnalyst ChartService Setup

Service Name   QIChartService   [Start Service]

Listener Port number   40000   [Stop Service]

Update Timer in ms   60000

Chart Service Account

Domain\UserName   ROOPAHNB23\QIUser   [Browse]

Password   ××××××××××××

Status   **Not Running**   [OK]   [Cancel]   [Help]

FIGURE 26: START THE QICHARTSERVICE

18. Wait until the Status says **Running** (Figure 27 below).

Note: The time taken for the status to show as **Running** depends on the number of charts being loaded by the QI Chart Service, and the system resources.
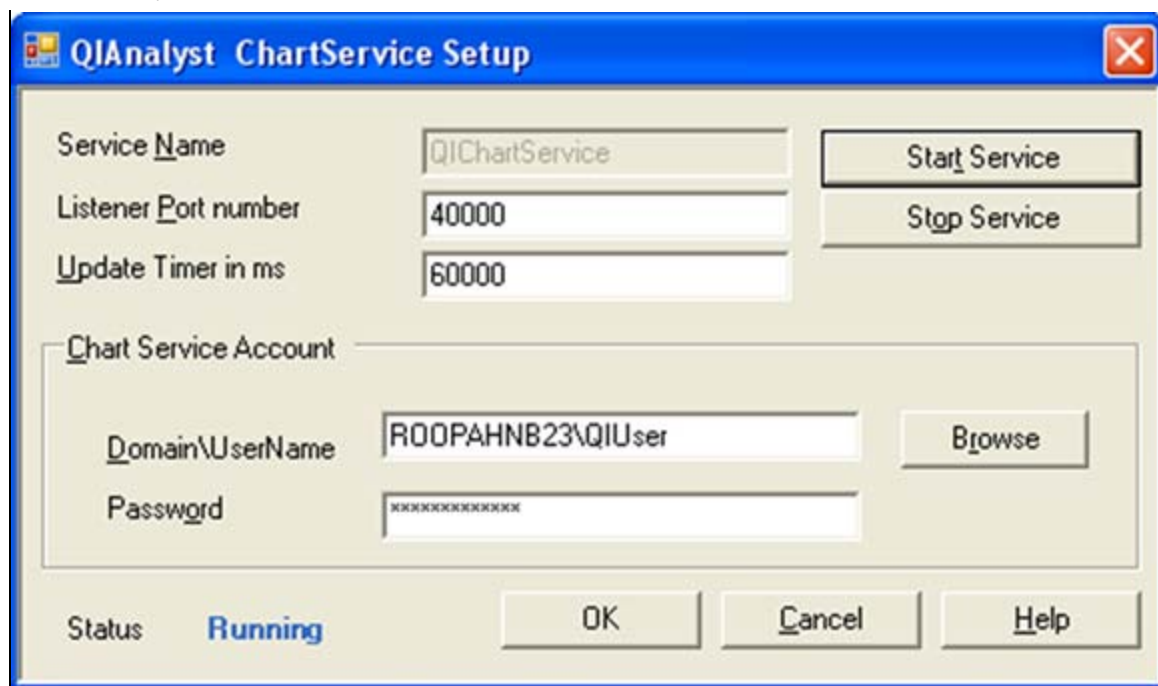
FIGURE 27: QICHARTSERVICE RUNNING

18. Click **OK** to close Chart Service Setup.

19. Close QI Chart Service Administration.

Verify the Charts Were Loaded

To verify if the charts were successfully loaded by QI Chart Service

1. Open System Management Console (SMC) by clicking **All Programs > Wonderware > System Management Console**.

2. Verify messages saying **Successfully loaded the chart: ChartNameXXX** appear for every chart that you expected to be loaded by QIChart Service (Figure 28 below).
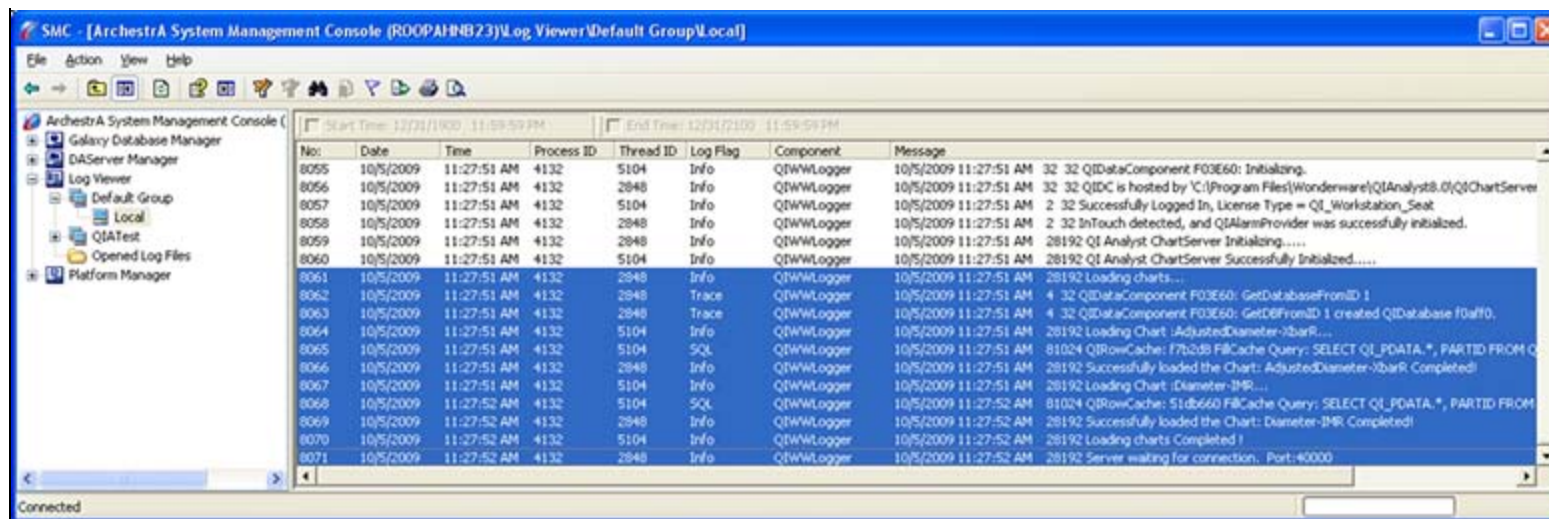
FIGURE 28: VERIFY CHARTS ARE SUCCESSFULLY LOADED

3. Open Windows Services and verify the following are true (Figure 30 below).

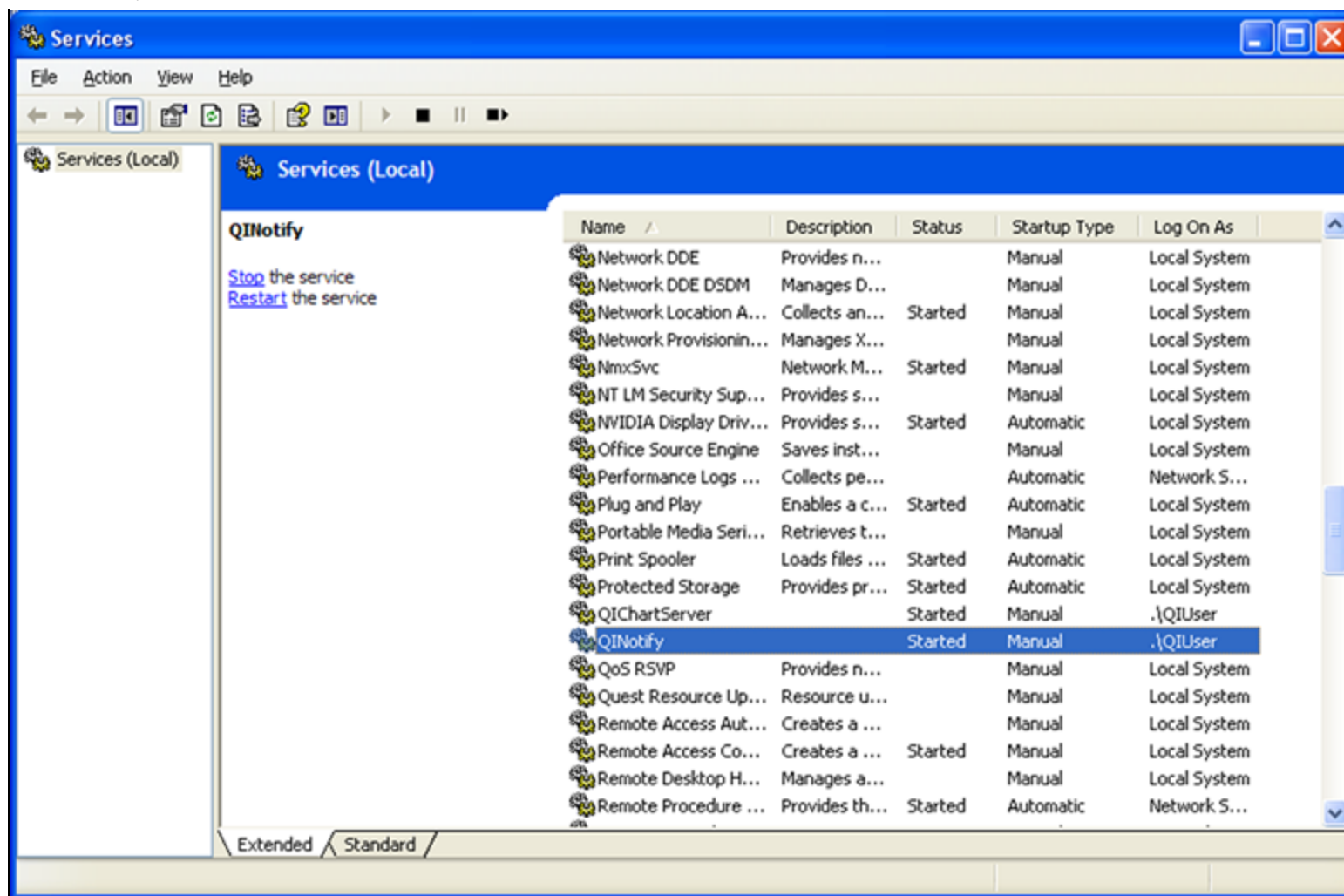- **QINotify** is Started
- **QIChartServer** is Started

FIGURE 29: VERIFY SERVICES ARE STARTED

4. Close Windows Services.

Configuring QI Chart Service Viewer to View the Charts

1. Click **Start > All Programs > Wonderware > QI Analyst 8.0 > QIChartService Viewer**.

2. Configure QI Chart Service Viewer as explained in Chapter 12 **QI Analyst Chart Service and Viewer** (p.p. 260 – 261) of the QI Analyst Controller Manual.

   You can view it by clicking **Start > All Programs > Wonderware > QI Analyst 8.0 > Books > QI Analyst Controller User Manual**.

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