

IT Essentials 5.0

5.3.3.5 Lab - Monitor and Manage System Resources in Windows 7

Introduction

Print and complete this lab.

In this lab, you will use administrative tools to monitor and manage system resources.

Recommended Equipment

The following equipment is required for this exercise:

- A computer running Windows 7
- Internet access

Step 1

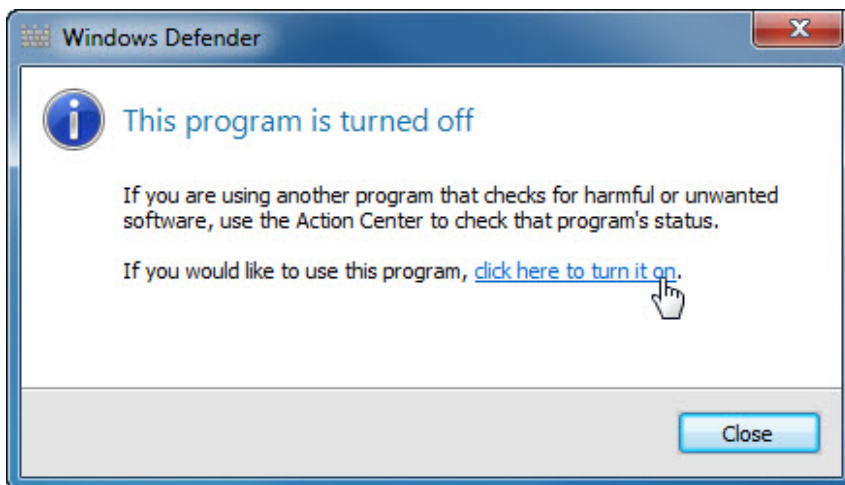
You will explore what happens when a service is stopped then started.

Log on to Windows as an administrator.

Note: Some antivirus or antispyware programs must be uninstalled on the computer for Windows Defender to work.

To see if Windows Defender is turned off click **Start >** in Search programs and files type **Defender >** select **Windows Defender**.

If the “This program is turned off” screen appears, click **click here to turn it on**.

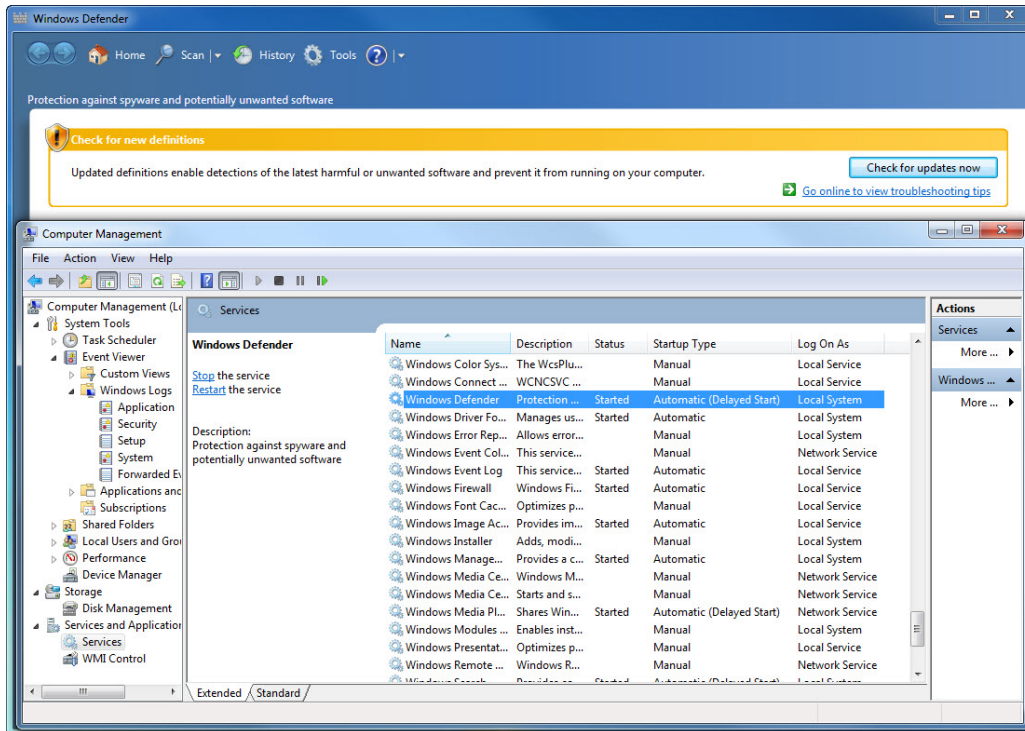


Windows Defender should start, if not, uninstall any antivirus or antispyware programs and then click **Start >** in Search programs and files type **Defender >** select **Windows Defender**.

Click **Start > Control Panel > Administrative Tools > Computer Management >** expand **Services and Applications >** select **Services**.

Close the Administrative Tools window.

Resize and position both windows so they can be seen at the same time.

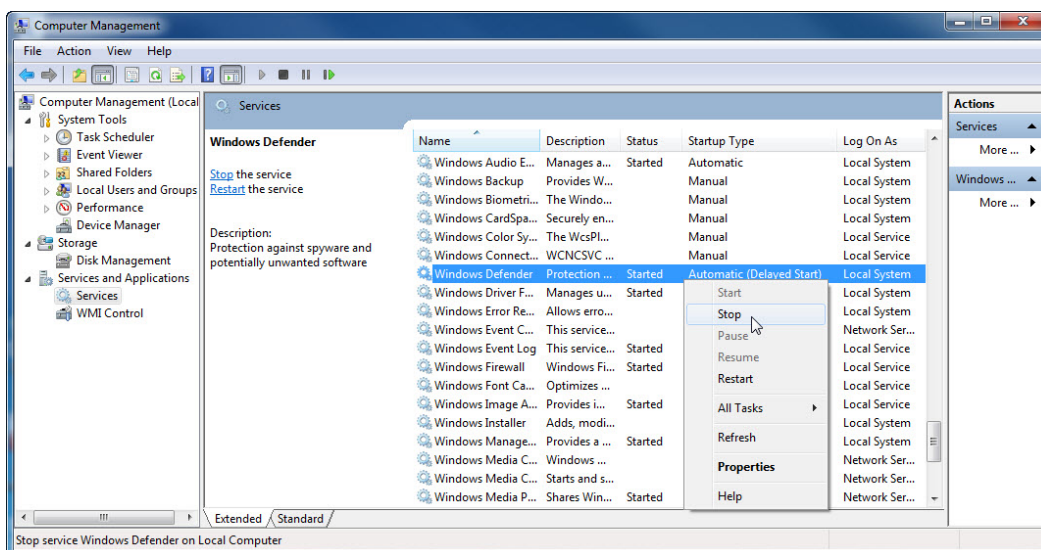


Can Windows Defender check for updates?

Scroll the "Computer Management" window so you see the "Windows Defender" service.

What is the Status of the service?

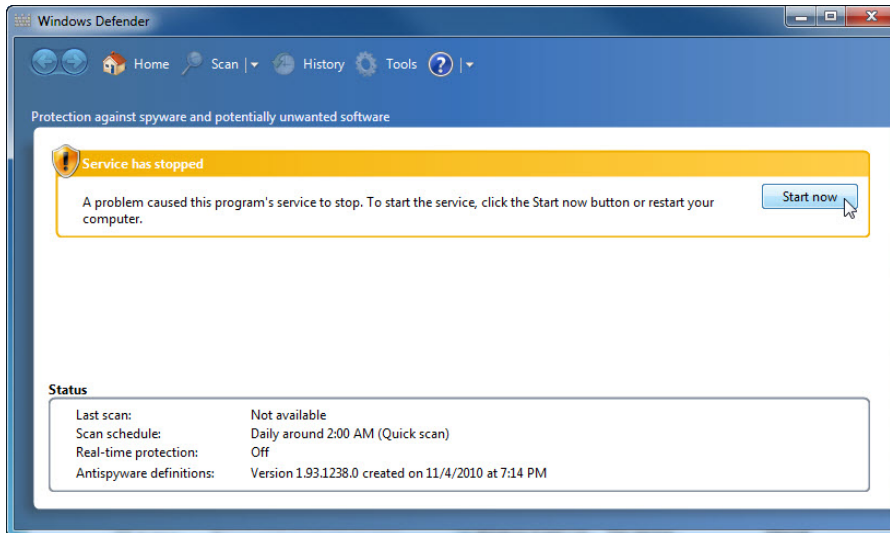
Right-click **Windows Defender** service > select **Stop**.



Note: The reason this service will be stopped is so you can easily see the results. When stopping a service, to free up system resources the service uses, it is important to understand how the overall system operation will be affected.

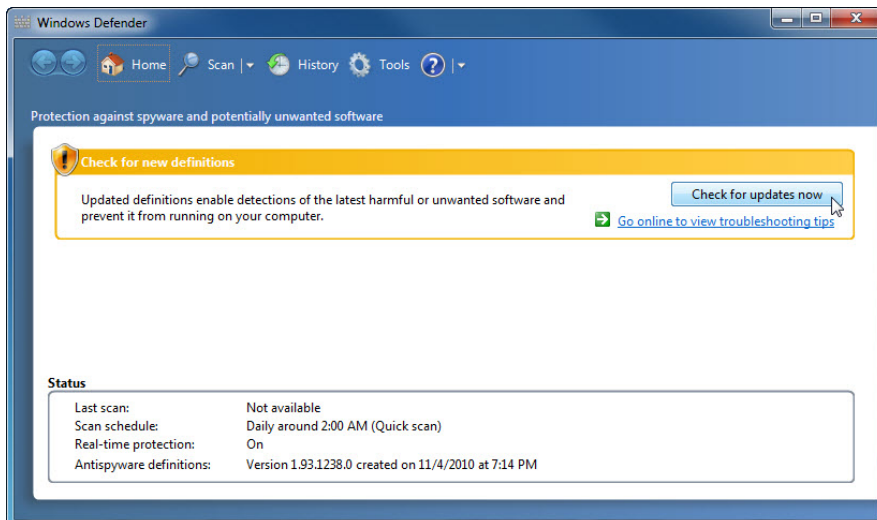
The “Service Control” window opens and closes.

Select the Windows Defender window so it is active.



What must be done so Windows Defender can run?

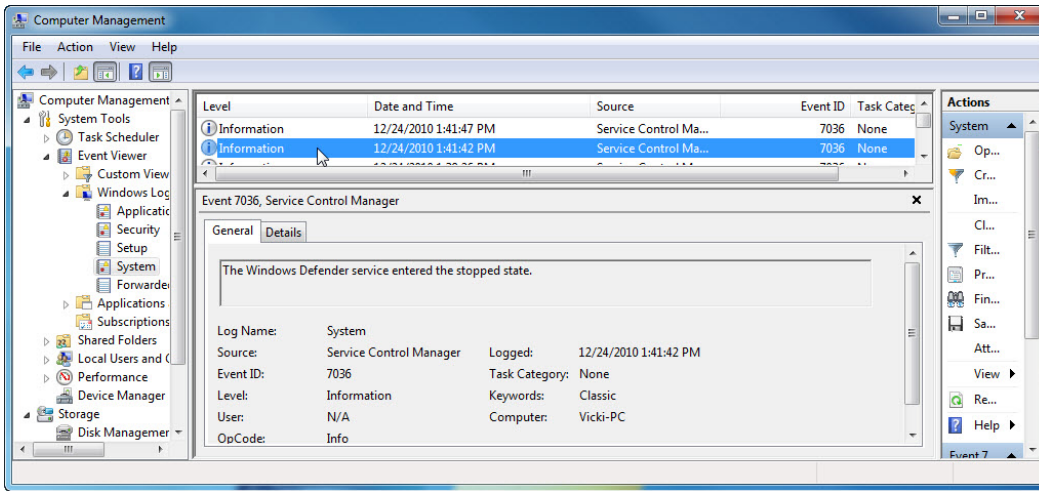
Start the Windows Defender service, click **Start now**.



Can Windows Defender check for updates?

Close the Windows Defender window.

Make sure the Computer Management window is open.

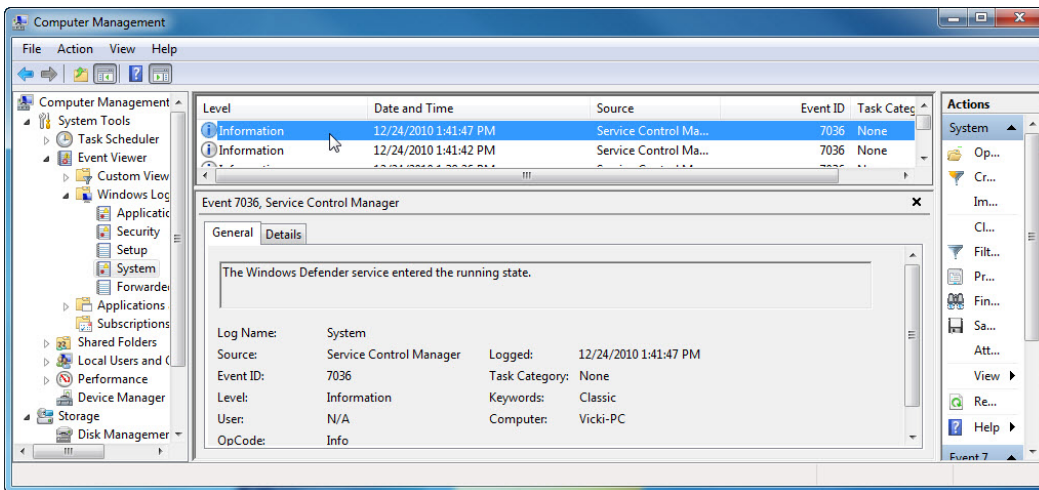


Expand **Event Viewer > Windows Logs > select System.**

Select the second event in the list.

Look below the General tab then explain what has happened to the Windows Defender service.

Click the up arrow button on the keyboard or select the event above the one you just viewed.



Look below the General tab then explain what has happened to the Windows Defender service.

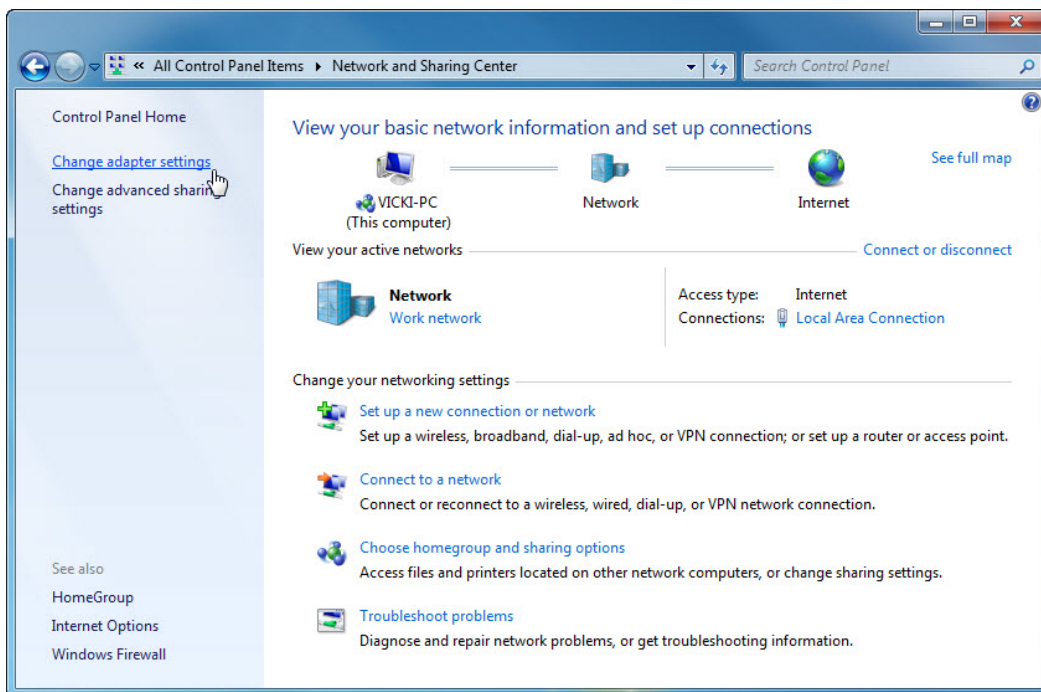
Close all opened windows.

Step 2

You will explore what happens when a service is stopped then started.

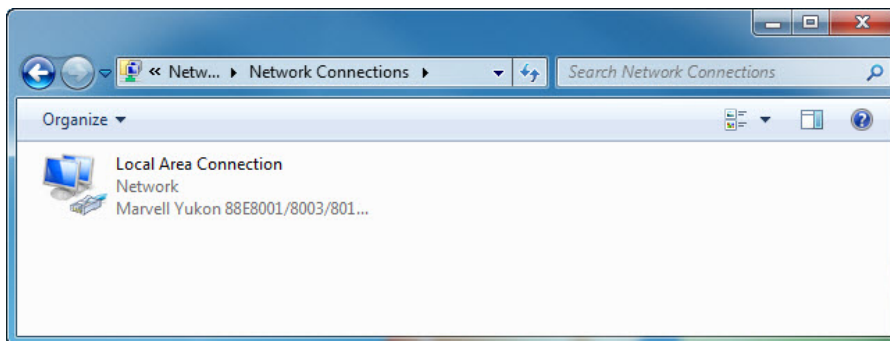
Note: If Network is not shown in the Start menu, complete the following: Right-click **Start > Properties > Start Menu** tab. Click **Customize**, and then scroll down the list to Network. Place a check mark next to Network, and then click **OK > OK**.

Navigate to the “Network and Sharing Center” window by clicking **Start > Network > Network and Sharing Center**.

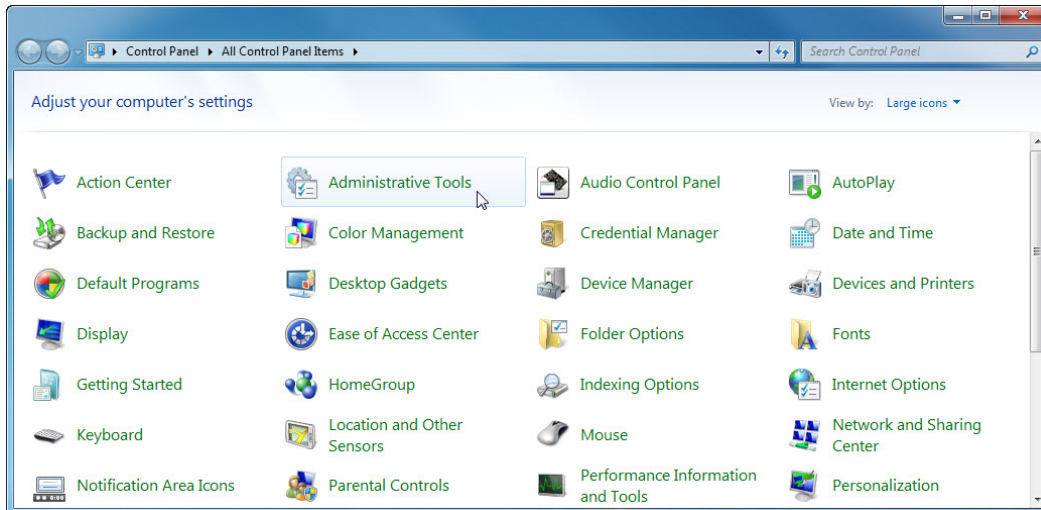


Click **Change adapter settings** in the left pane.

Reduce the size of the “Network Connections” window. Leave this window open.

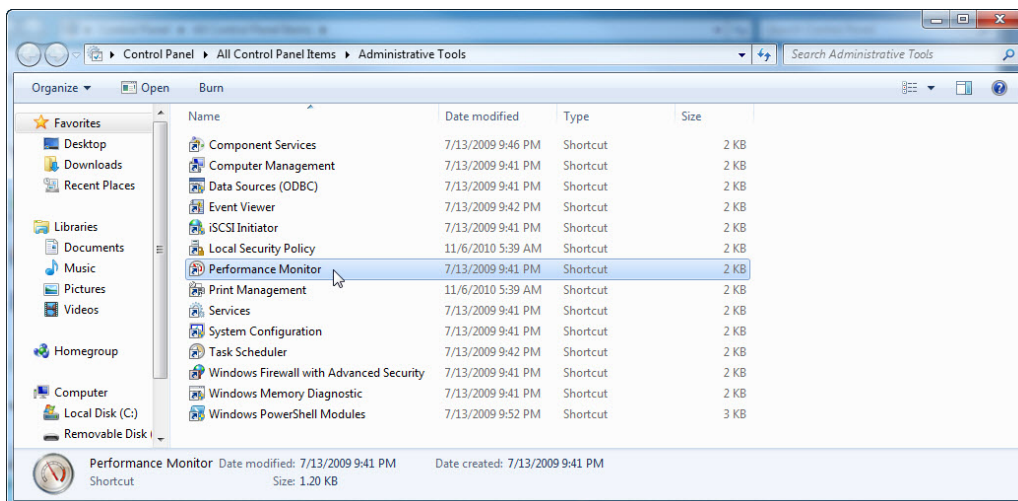


Navigate to the “Control Panel” window by clicking **Start > Control Panel**.



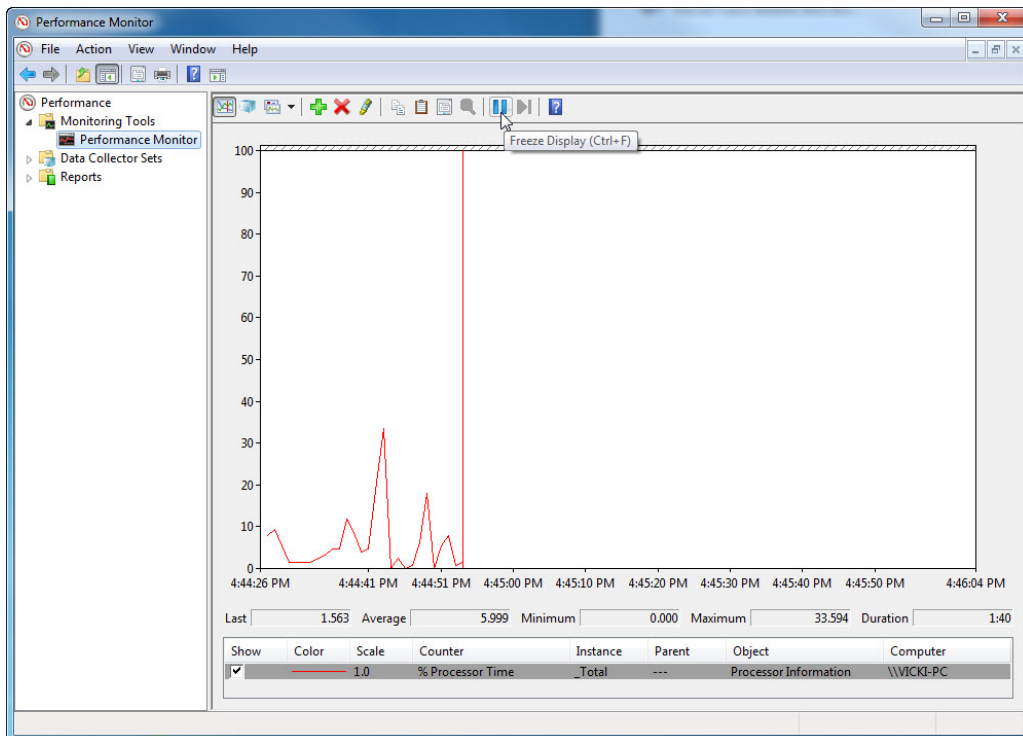
Click the **Administrative Tools** icon.

The “Administrative Tools” window opens.



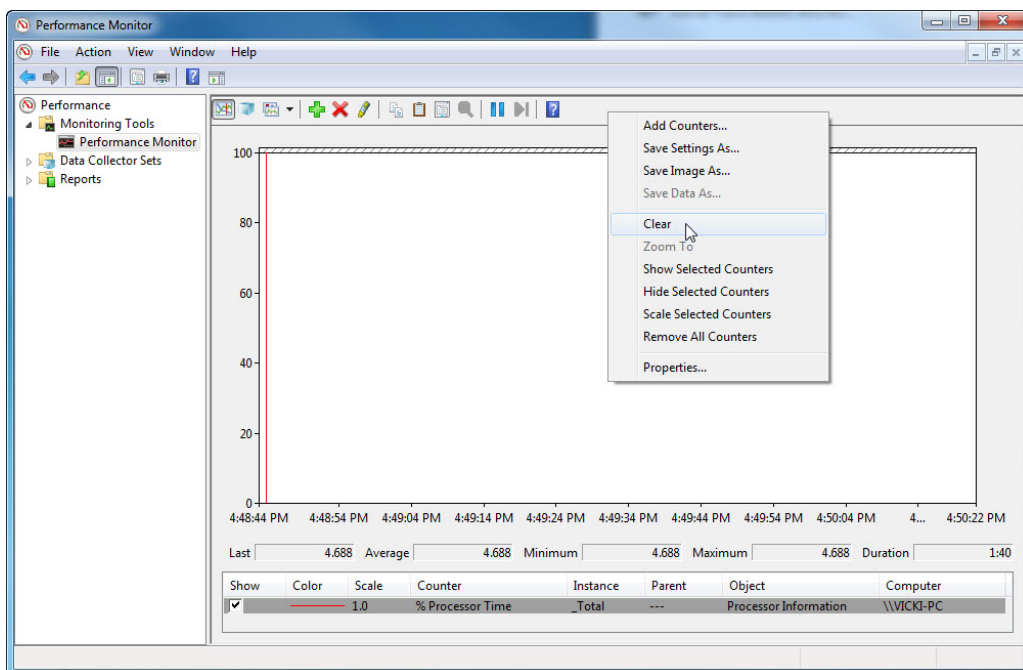
Double-click the **Performance Monitor** icon.

The “Performance Monitor” window appears. Make sure the Performance Monitor in the left pane is highlighted.

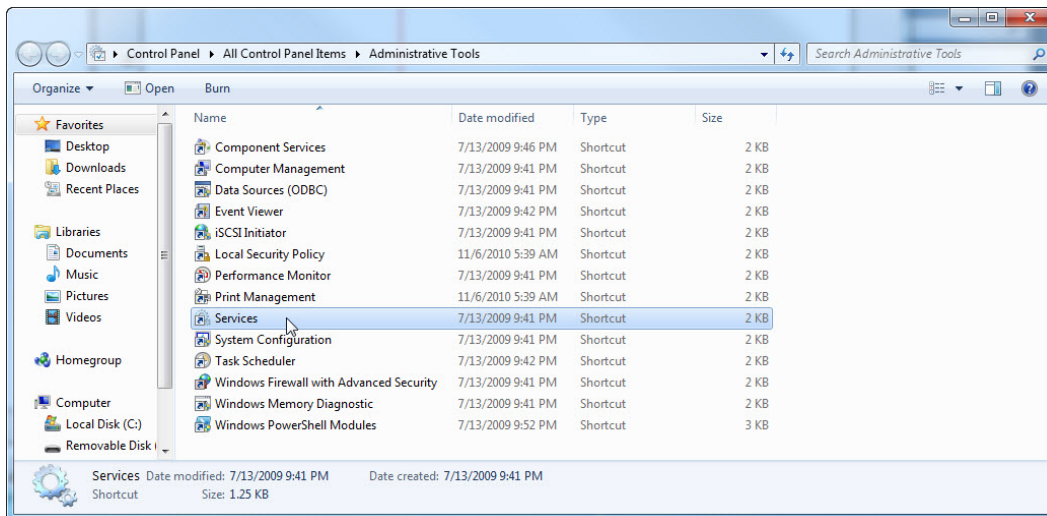


Click the **Freeze Display** icon to stop the recording.

Right-click the Performance Monitor menu bar and select **Clear** to clear the graph. Leave this window open.

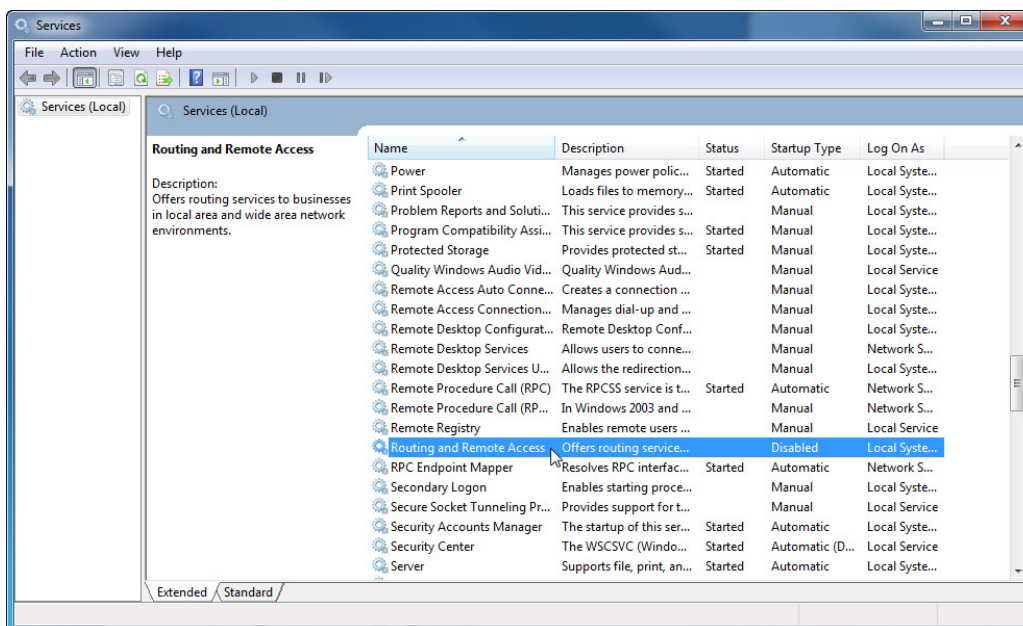


Navigate to the “Administrative Tools” window by clicking **Start > Control Panel > Administrative Tools**.



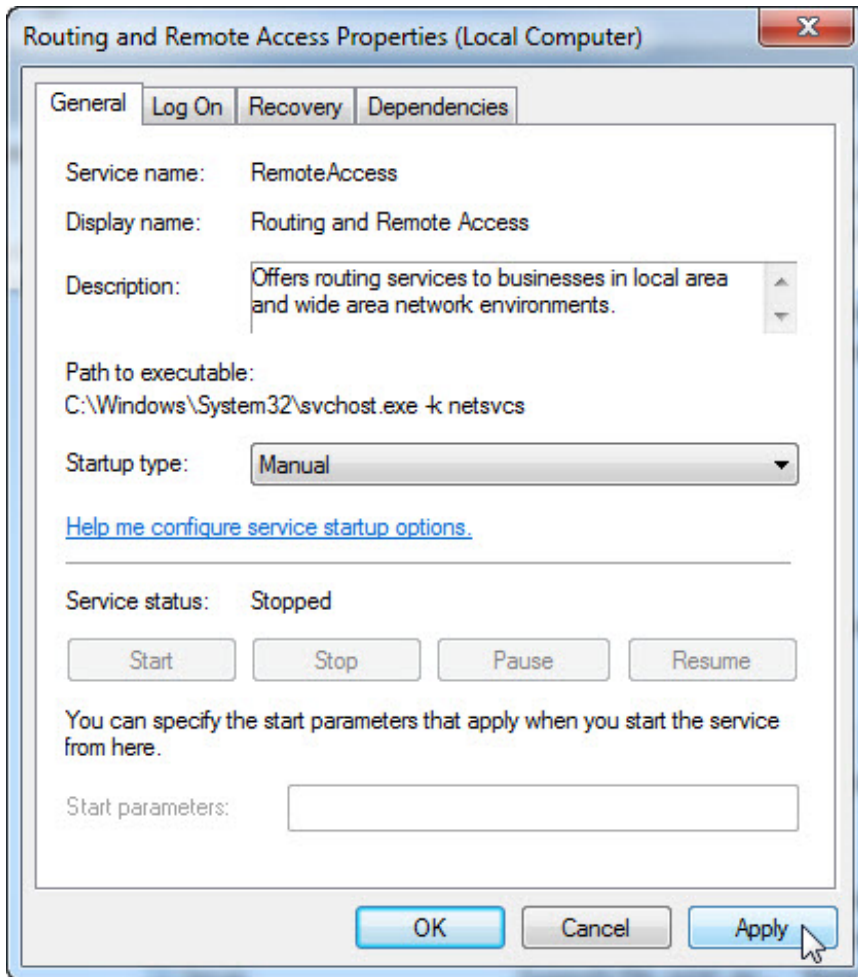
Double-click the **Services** icon.

Expand the width of the “Services” window so you have a clear view of the content. Scroll down in the right pane until you see the service Routing and Remote Access.



Double-click **Routing and Remote Access**.

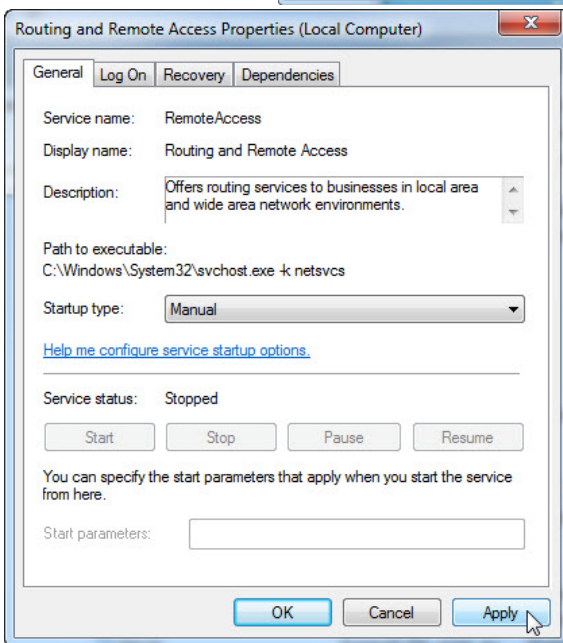
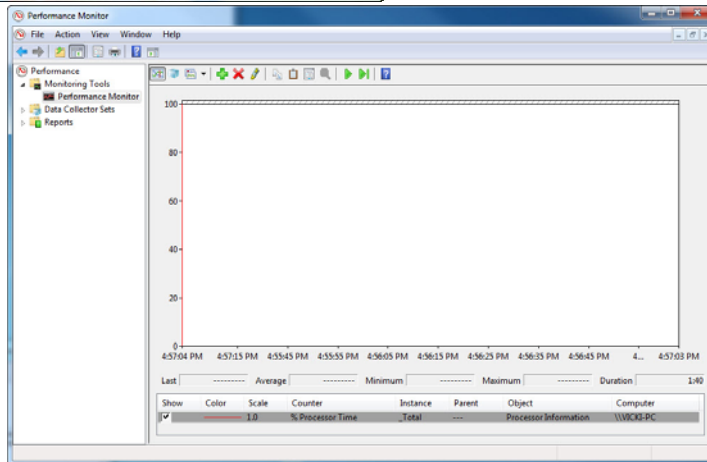
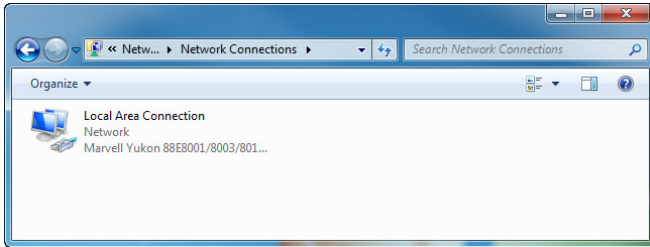
The “Routing and Remote Access Properties (Local Computer)” windows opens.



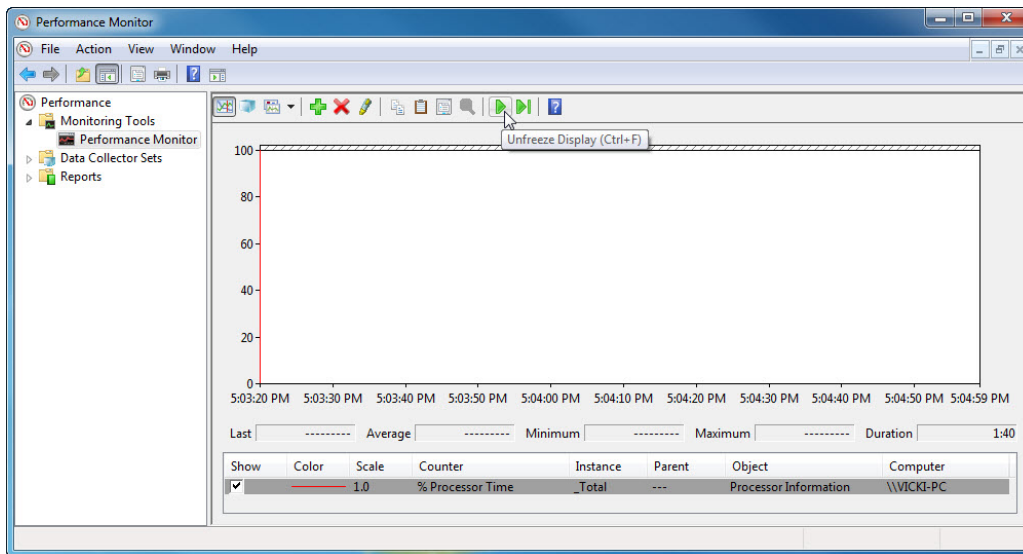
In the Startup type select **Manual**. Click **Apply**.

The Start button is now active; do not click the button yet. Leave this window open.

Position the following three windows so you can clearly see them at the same time: Network Connections, Routing and Remote Access Properties (Local Computer), and Performance Monitor.



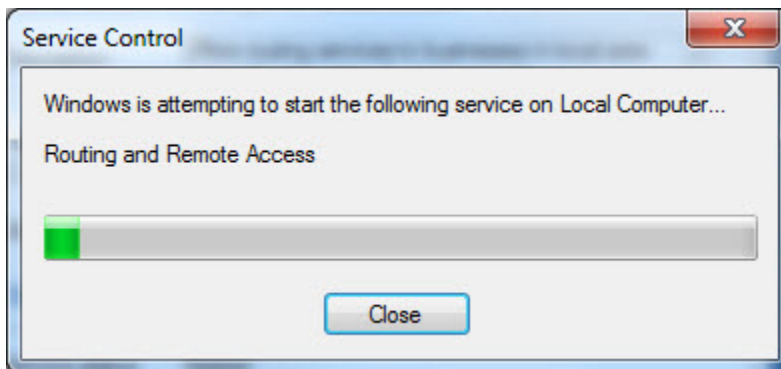
Click the “Performance Monitor” window so it is activated.



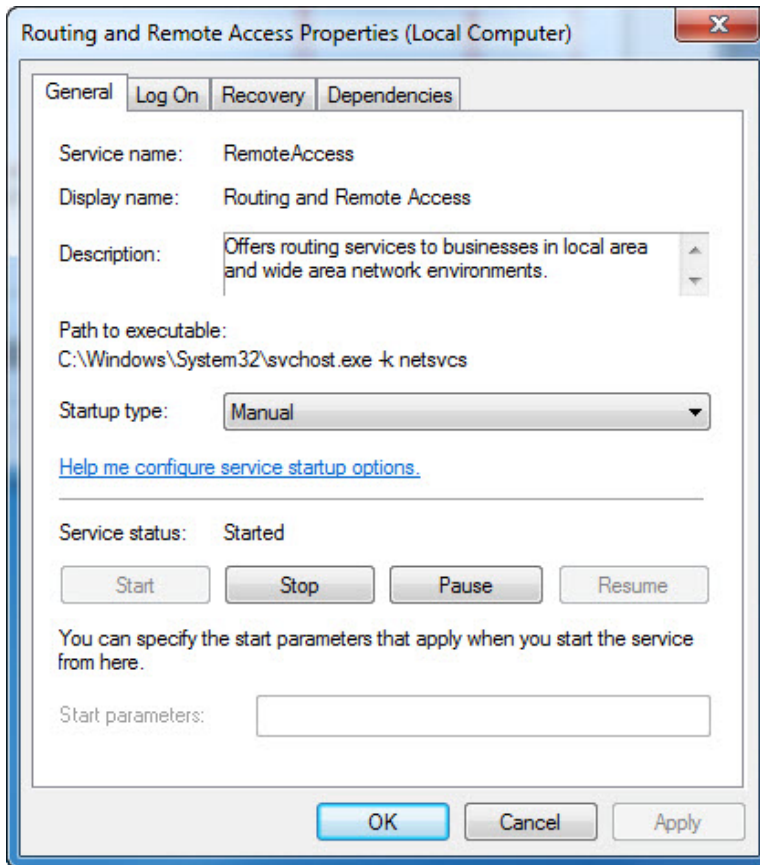
Click the **Unfreeze Display** icon to start the recording.

Click the “Routing and Remote Access Properties (Local Computer)” window so it is activated. To start the Service click **Start**.

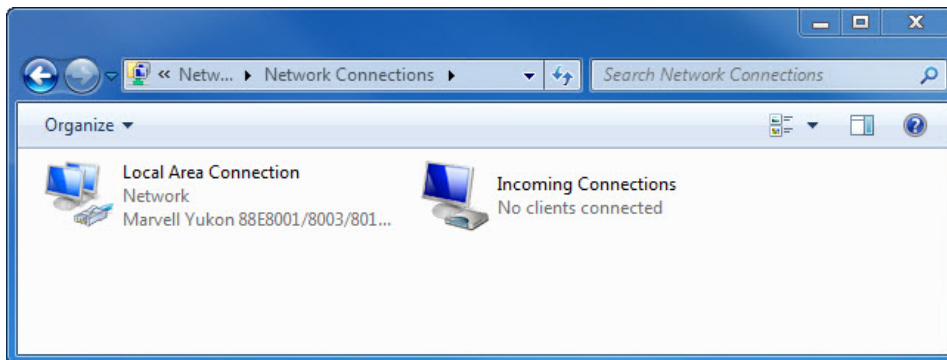
A window with a progress bar opens.



The “Routing and Remote Access Properties (Local Computer)” window now shows the Stop and Pause button active. Leave this window open.



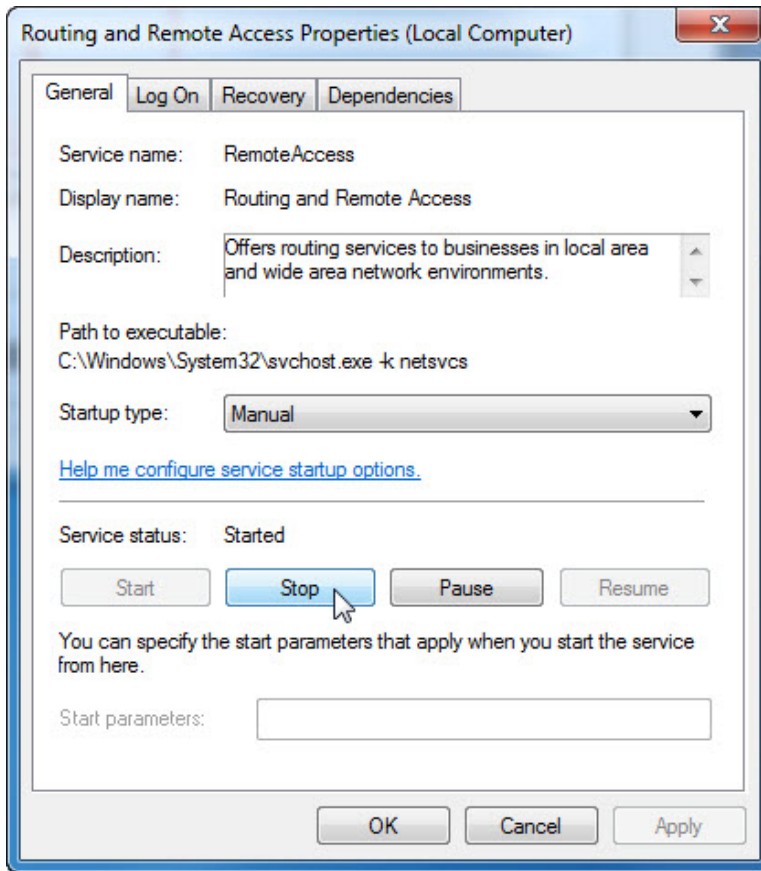
Click the “Network Connections” window so it is activated.



Press function key **F5** to refresh the content.

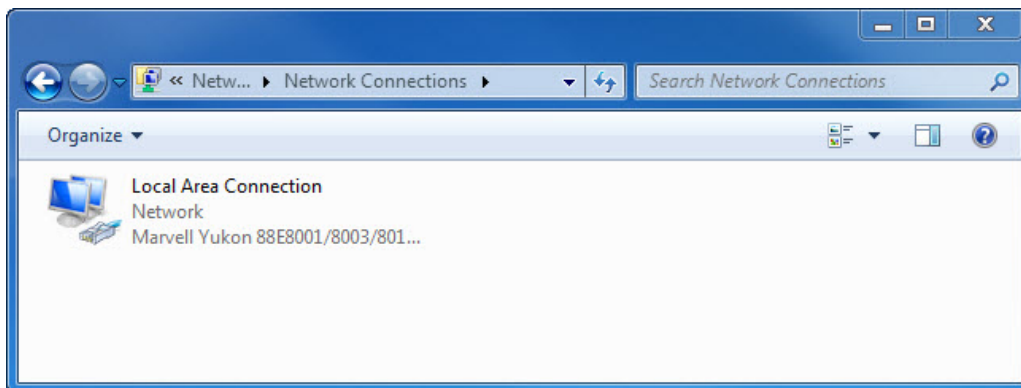
What changes appear in the right pane, after starting the Routing and Remote Access service?

Click the “Routing and Remote Access Properties (Local Computer)” window so it is activated.



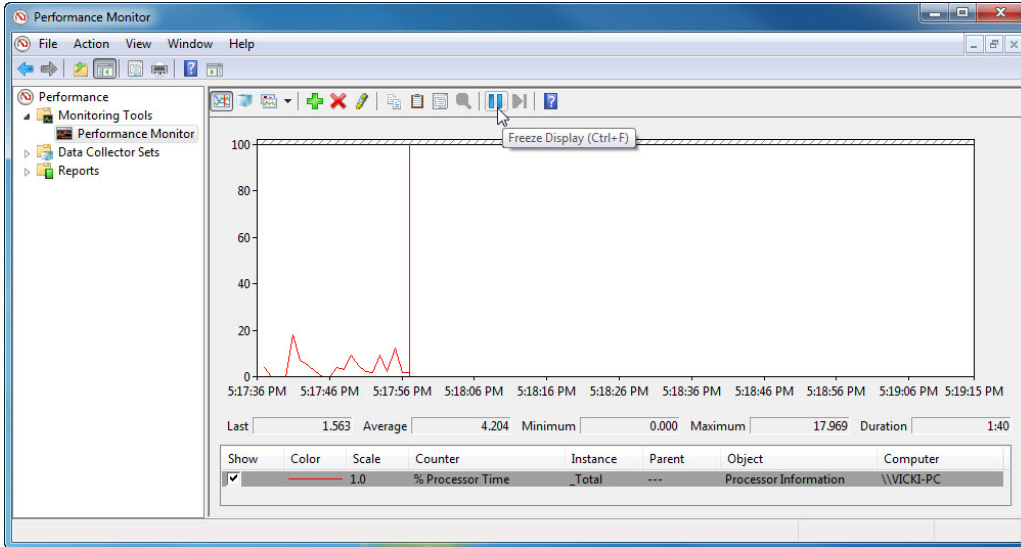
Click **Stop**.

Click the "Network Connections" window so it is activated.



What changes appear in the right pane, after stopping the Routing and Remote Access service?

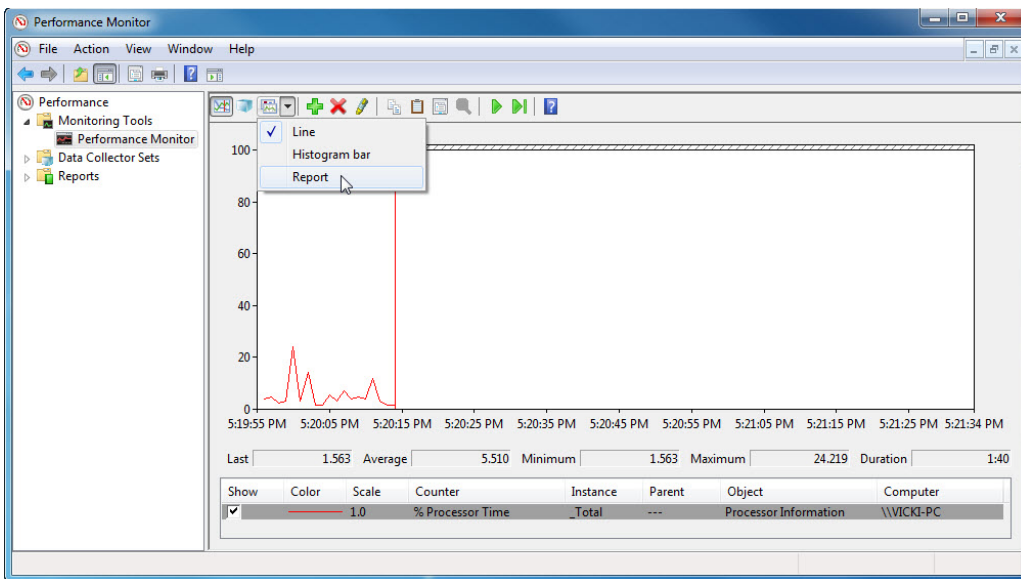
Click the "Performance Monitor" window so it is activated.



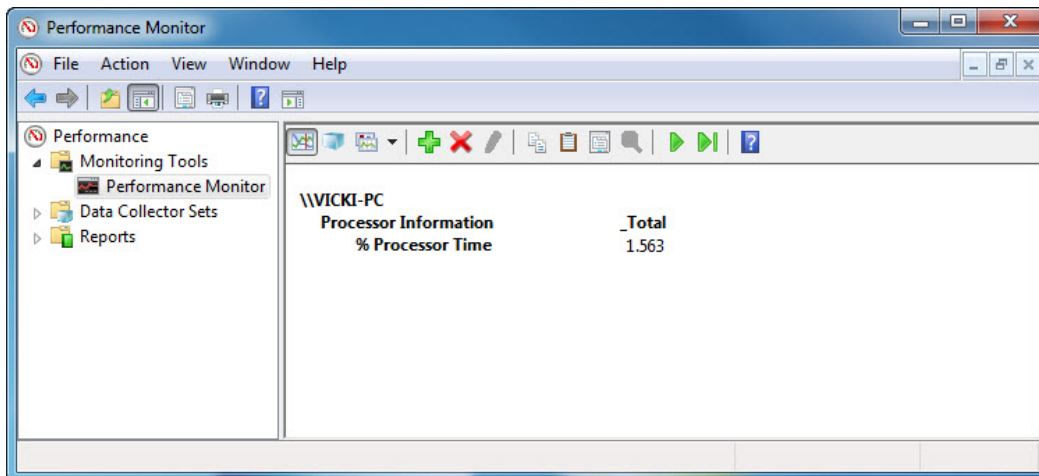
Click the **Freeze Display** icon to stop the recording.

Which Counter is being recorded the most in the graph (hint: look at the graph color and Counter color)?

Click the Change graph type drop-down menu, select **Report**.

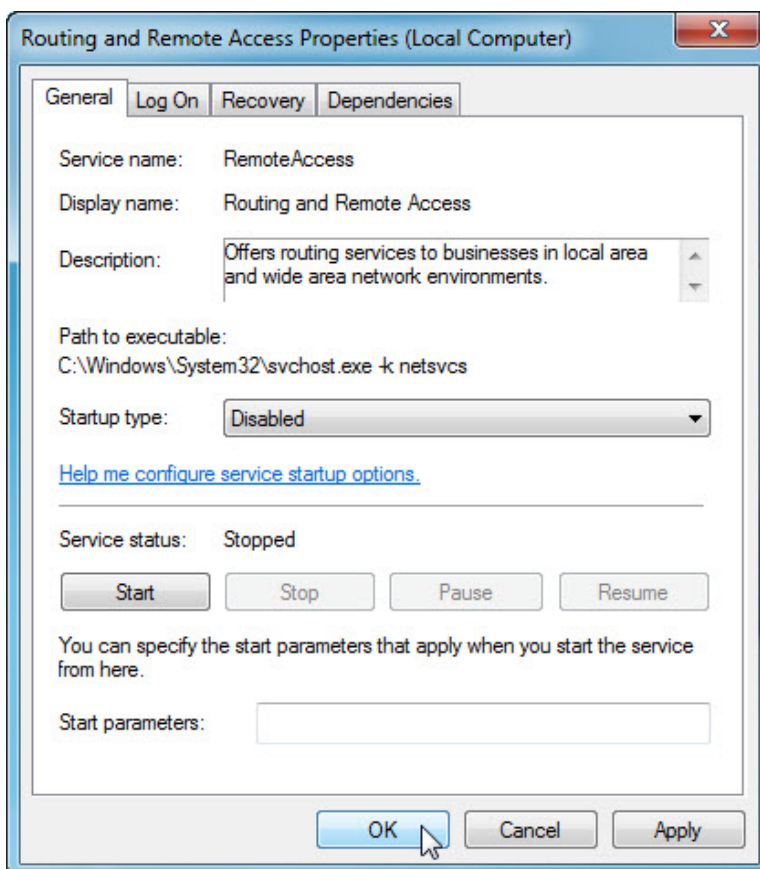


The display changes to report view.



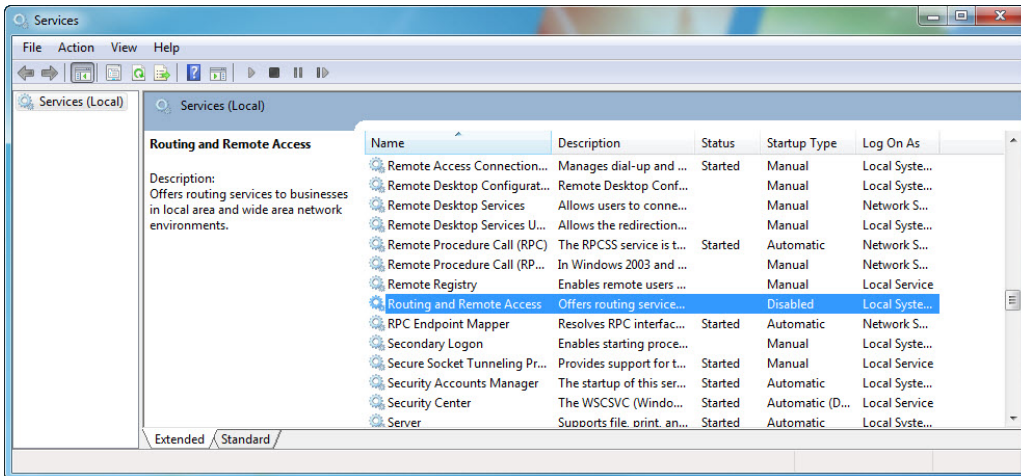
List the values of the counter.

Click the “Routing and Remote Access Properties (Local Computer)” window so it is activated.



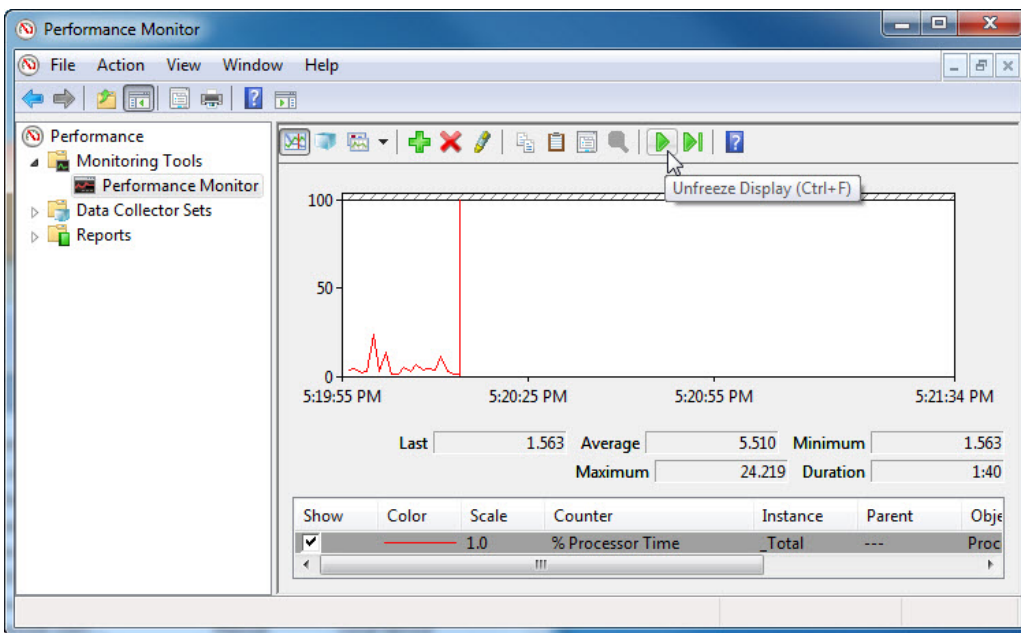
In the Startup type select **Disabled**. Click **OK**.

Click the “Services” window so it is activated.



What is the Status and Startup Type for Routing and Remote Access?

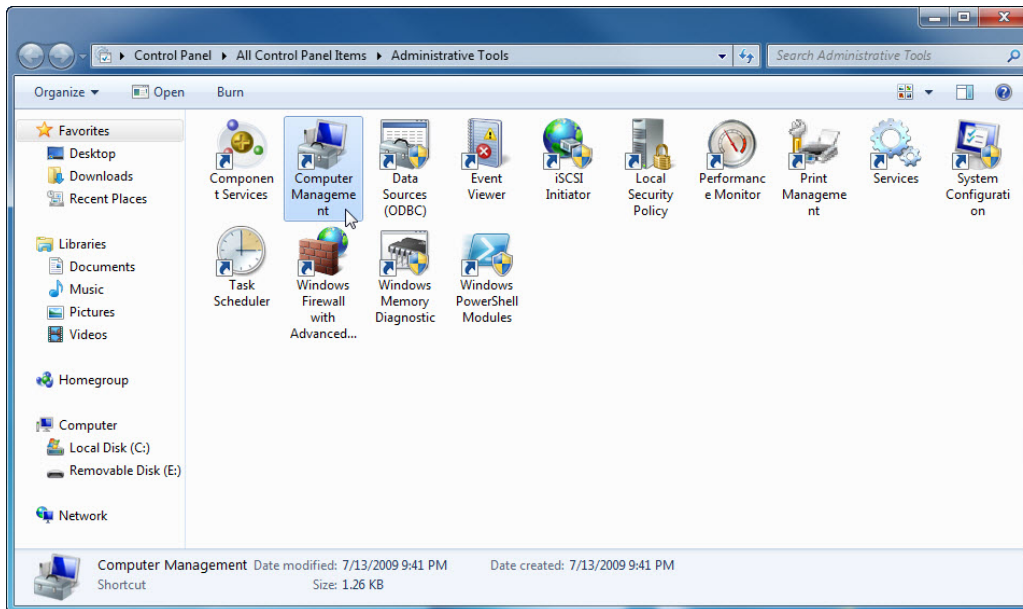
Click the “Performance Monitor” window so it is activated.



Click the **Unfreeze Display** icon to start the recording.

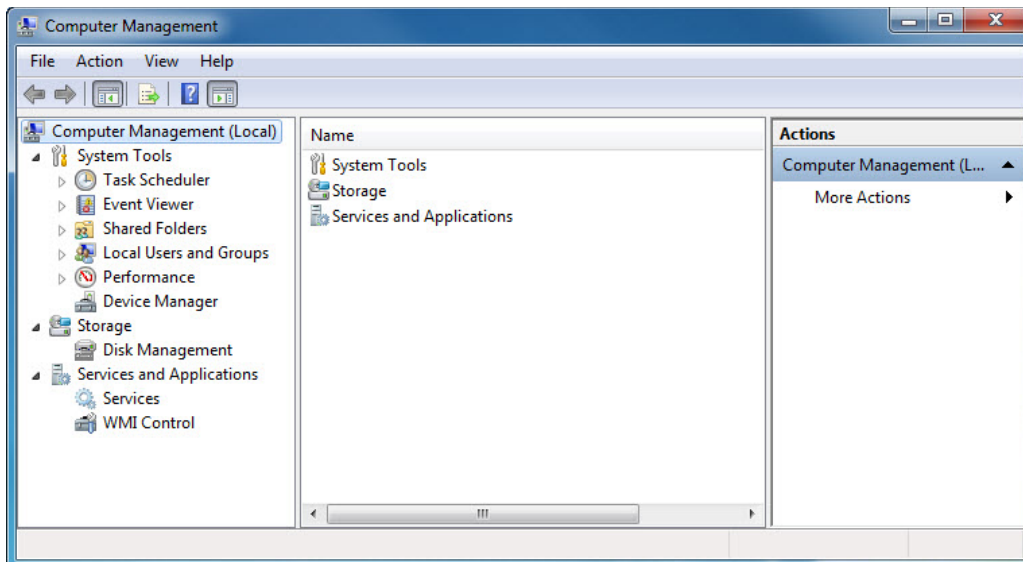
Close all open windows.

Navigate to the “Administrative Tools” window by clicking **Start > Control Panel > Administrative Tools**.

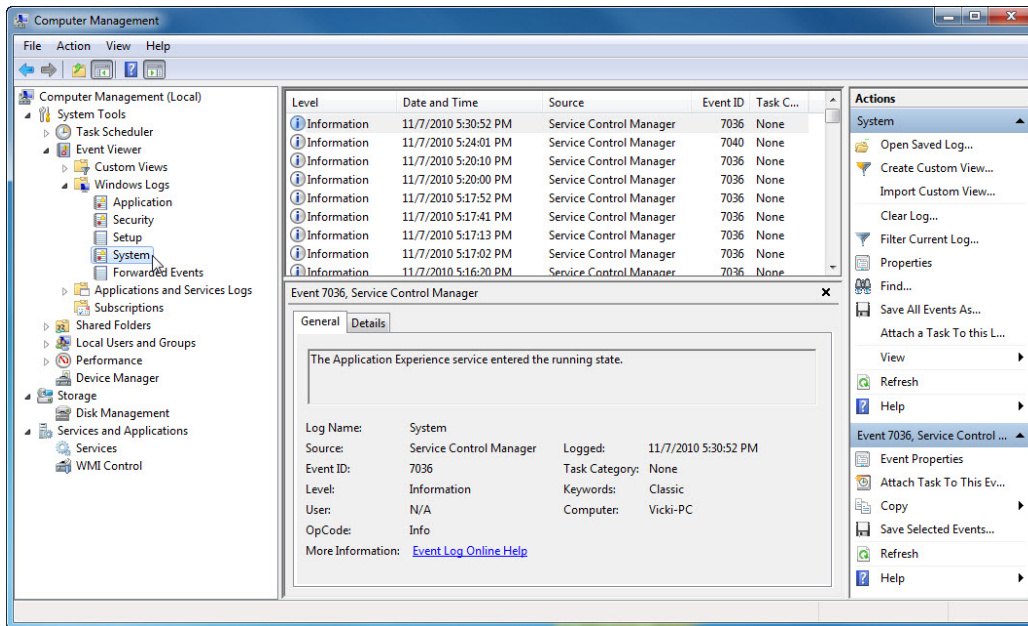


Double-click the **Computer Management** icon.

The “Computer Management” window appears. Expand the three categories by clicking on the **arrow** next to: System Tools, Storage, and Services and Applications.

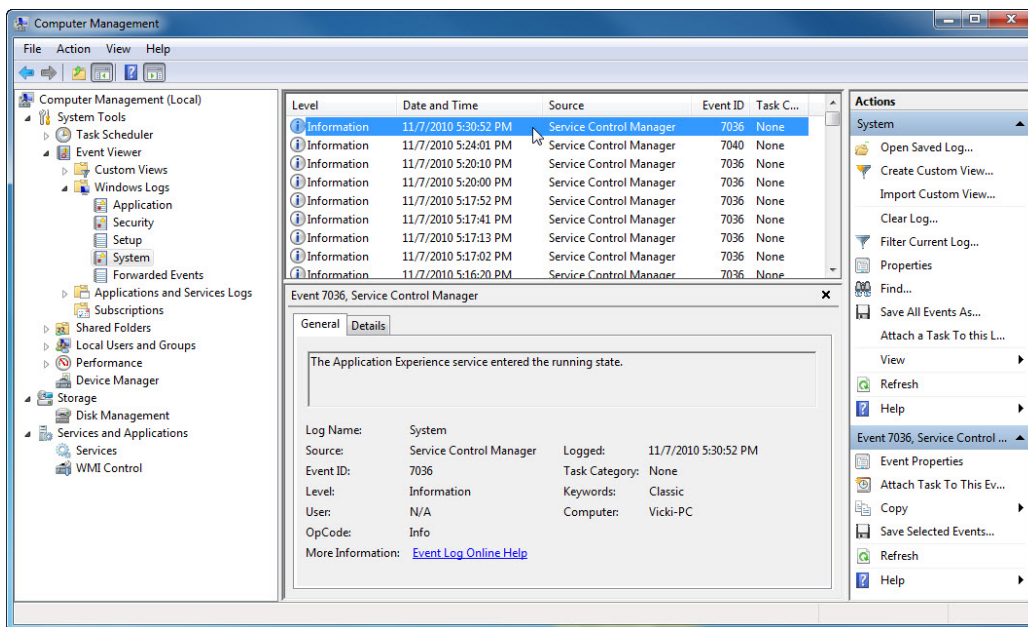


Click the **arrow** next to Event Viewer then click the **arrow** next to Windows Logs.

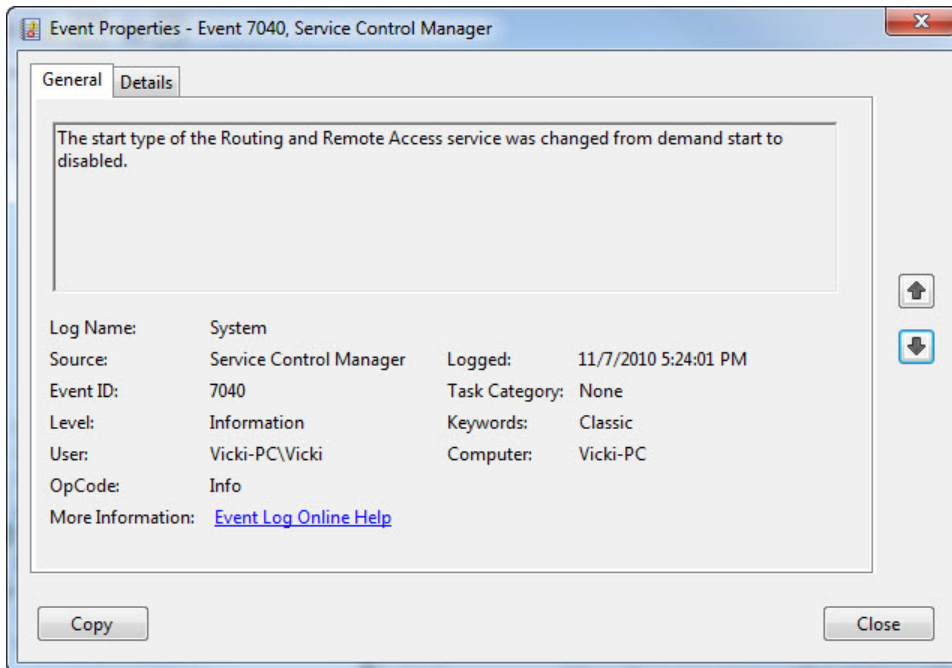


Select **System**.

Double-click the first event in the window.



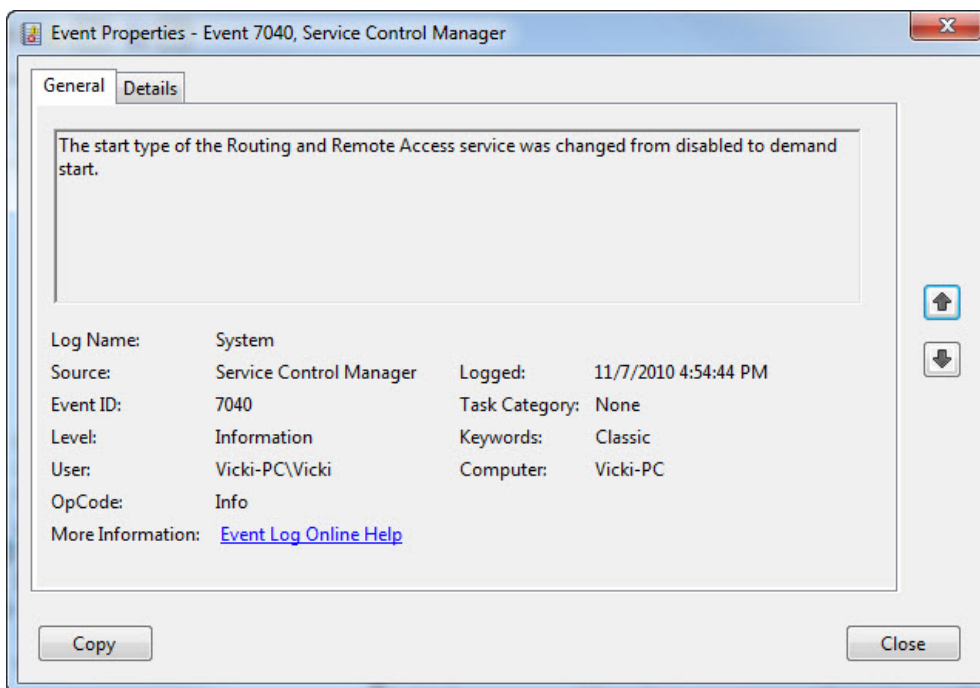
The “Event Properties” window opens for the event.

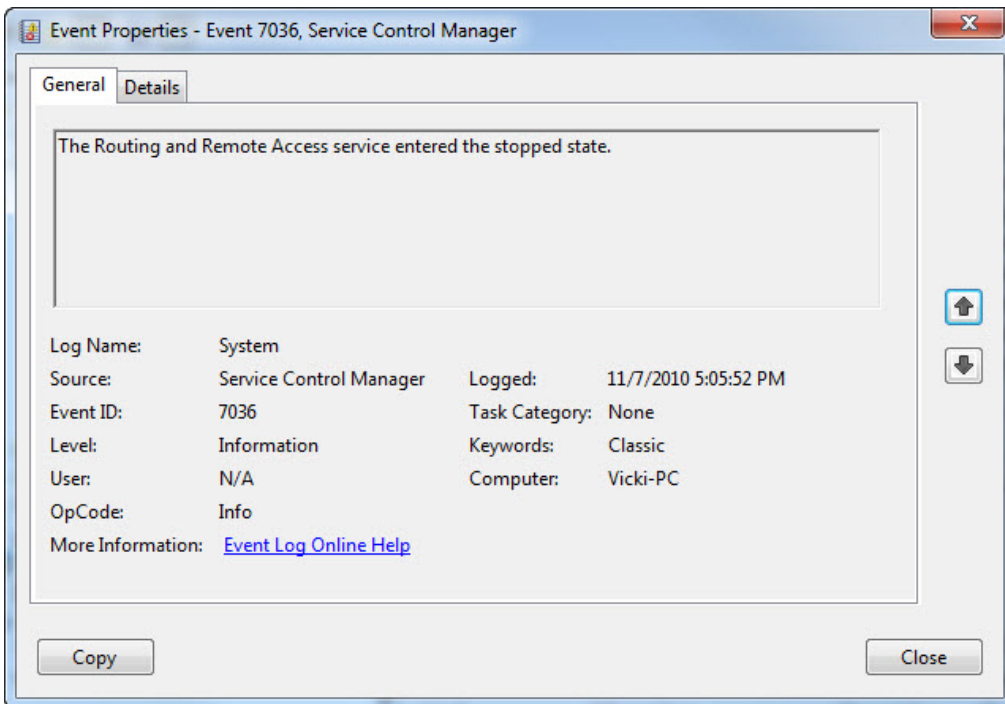
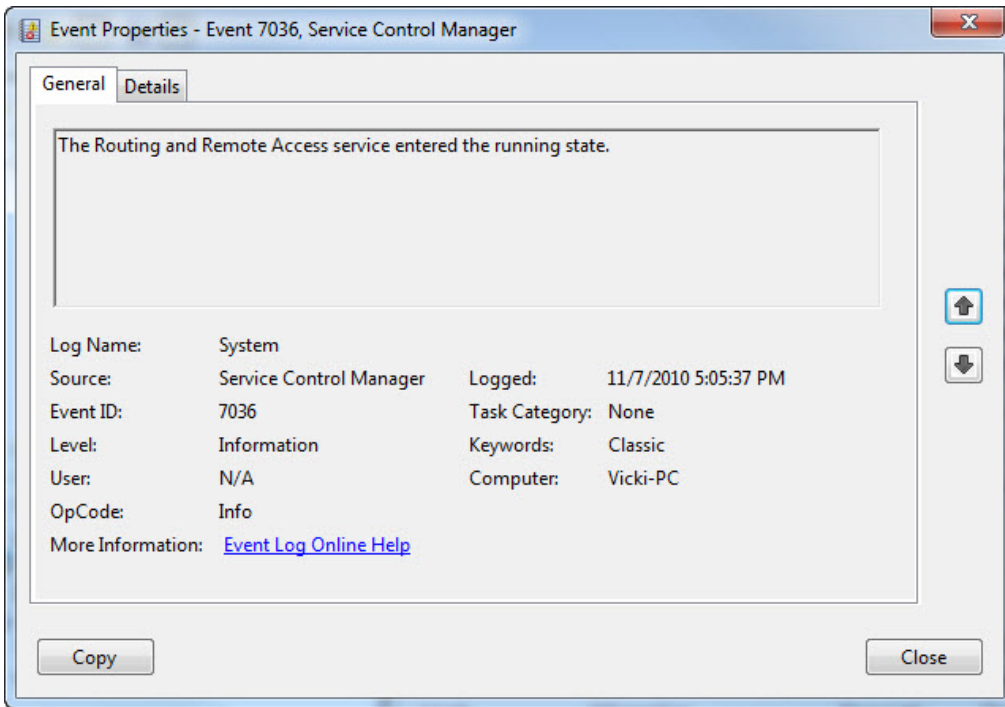


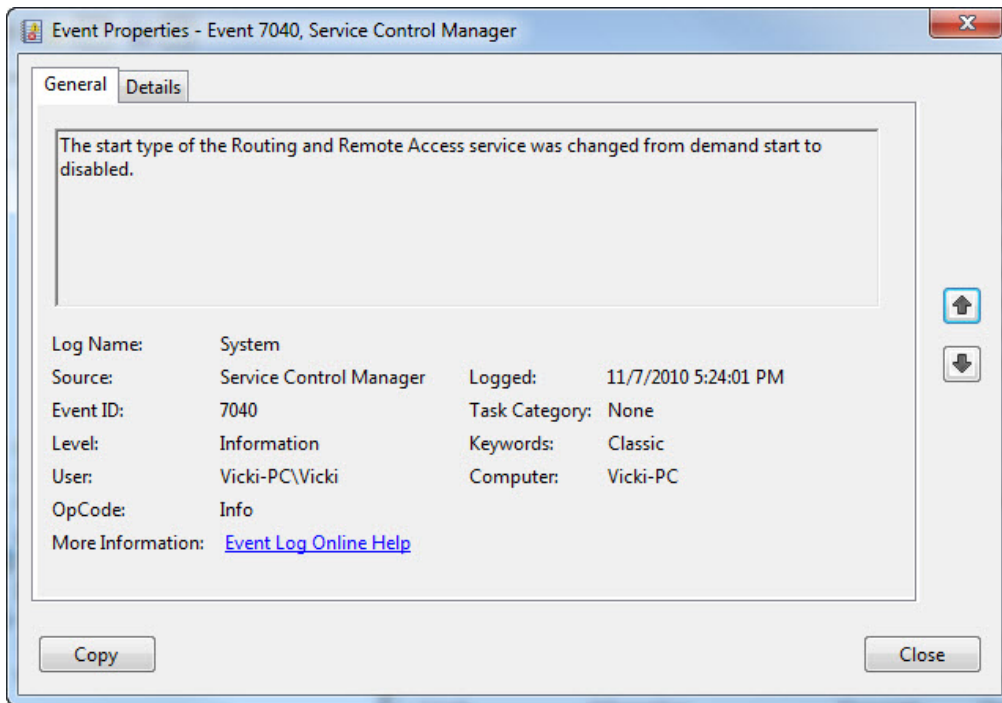
Click the **down arrow** key to locate an event for Routing and Remote Access.

You should find four events that describe the order for starting and stopping the Routing and Remote Access service.

Write down the description for each of the four events.







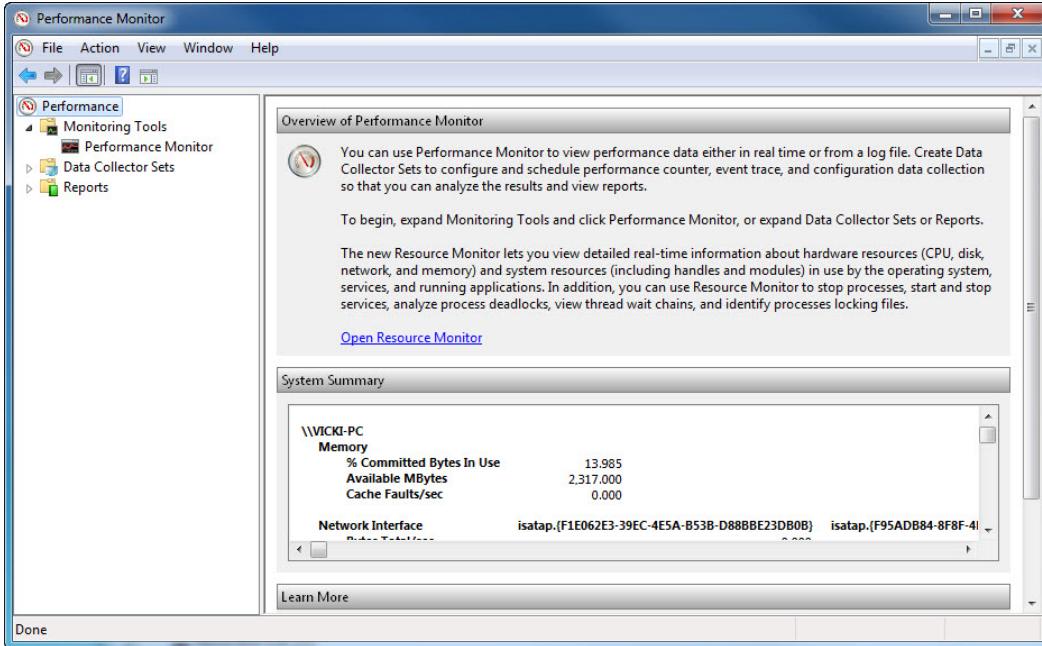
Close all open windows.

Step 3

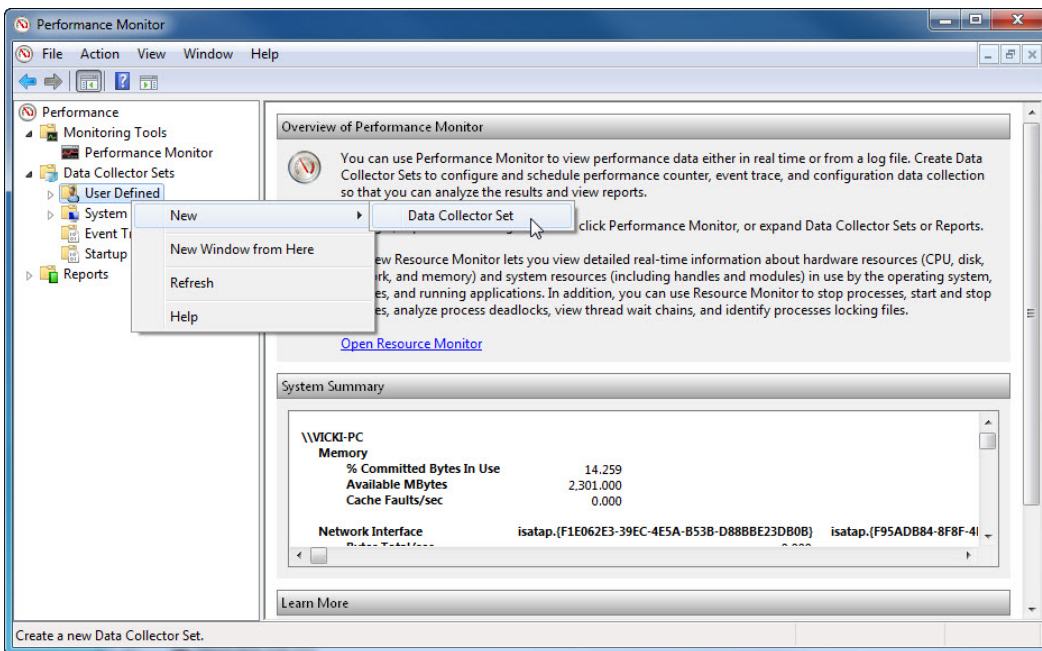
For the rest of this lab, you will configure advanced Administrative Tool features and monitor how this affects the computer system.

Click **Start > Control Panel > Administrative Tools > Performance Monitor**.

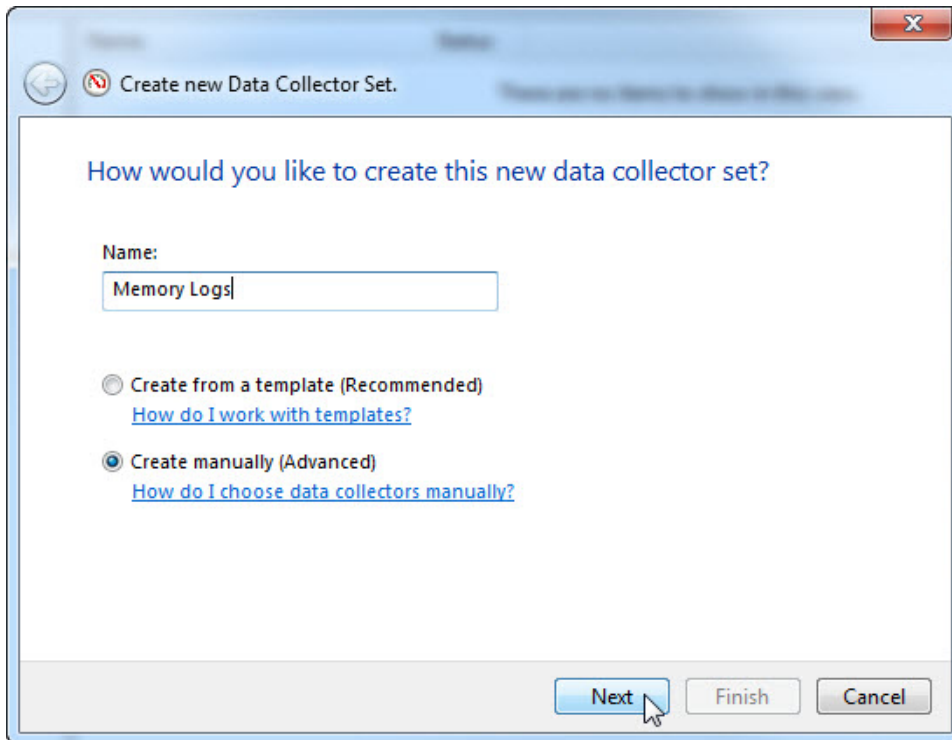
The "Performance Monitor" window opens.



Expand **Data Collector Sets** > right-click **User Defined** > **New** > **Data Collector Set**.

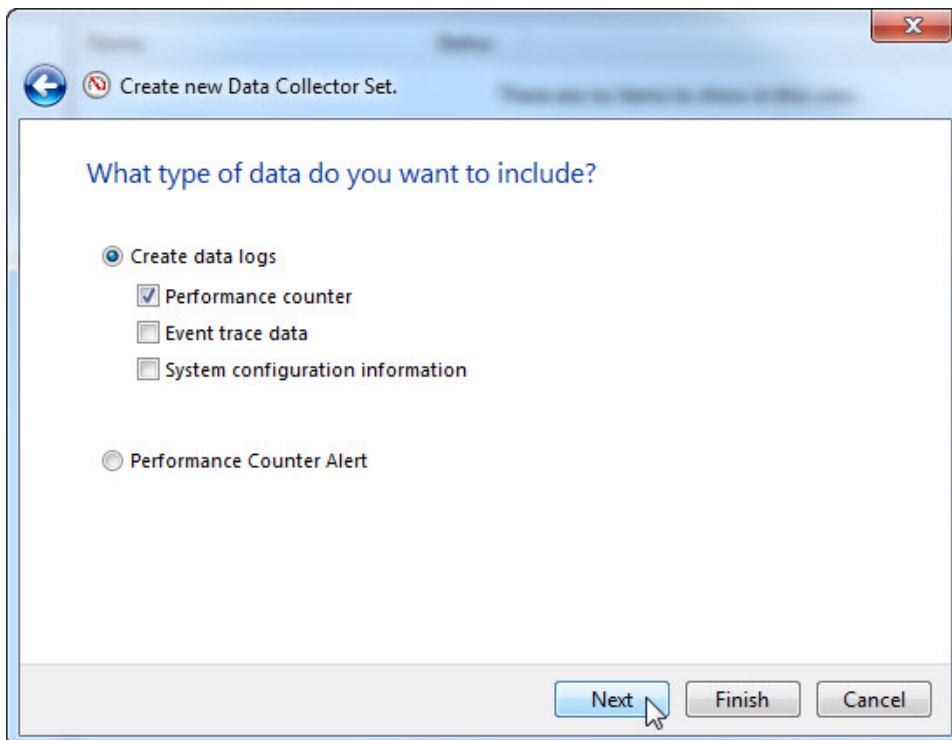


The "Create new Data Collector Set" window opens.



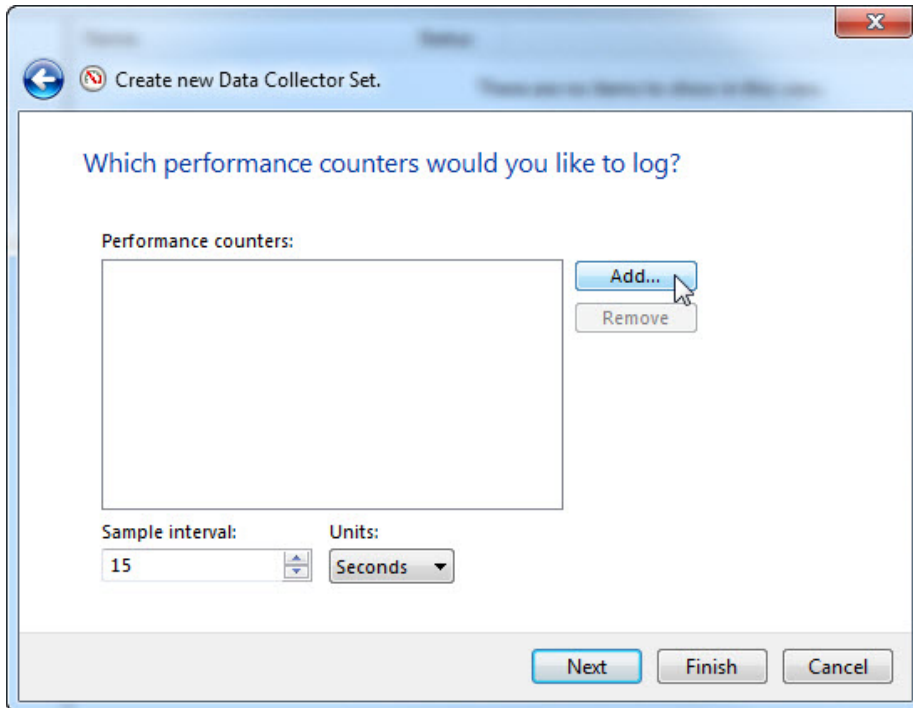
In the Name field, type **Memory Logs**. Select the **Create manually (Advanced)** radio button > **Next**.

The “What type of data do you want to include?” screen appears.



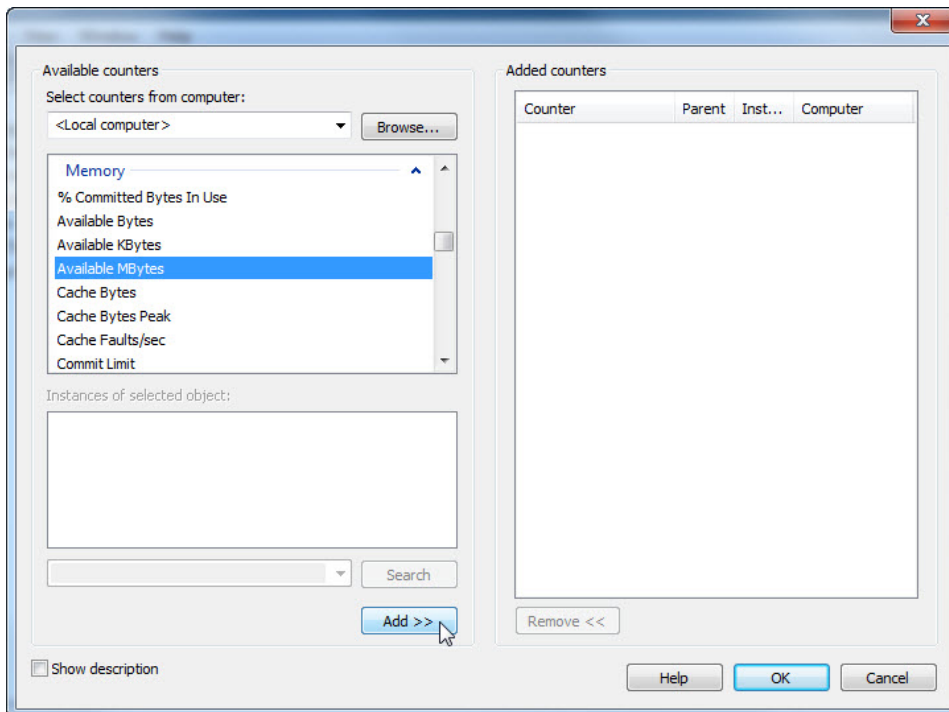
Select **Performance counter** > **Next**.

The “Which performance counters would you like to log?” screen appears.

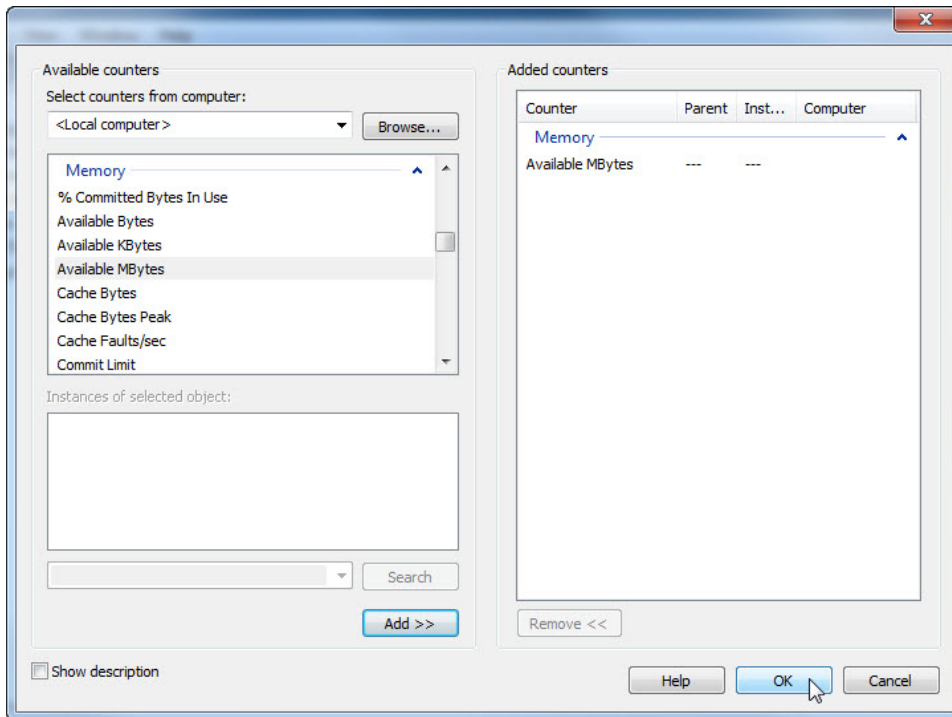


Click **Add**.

From the list of available counters locate and expand **Memory**.

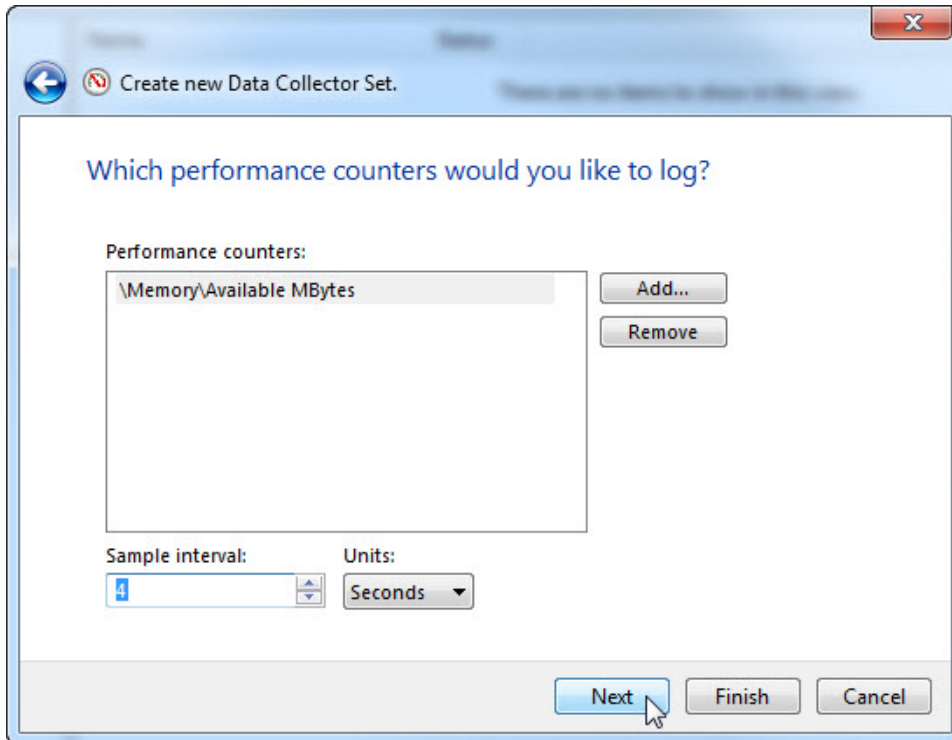


Select **Available MBytes** > **Add**.

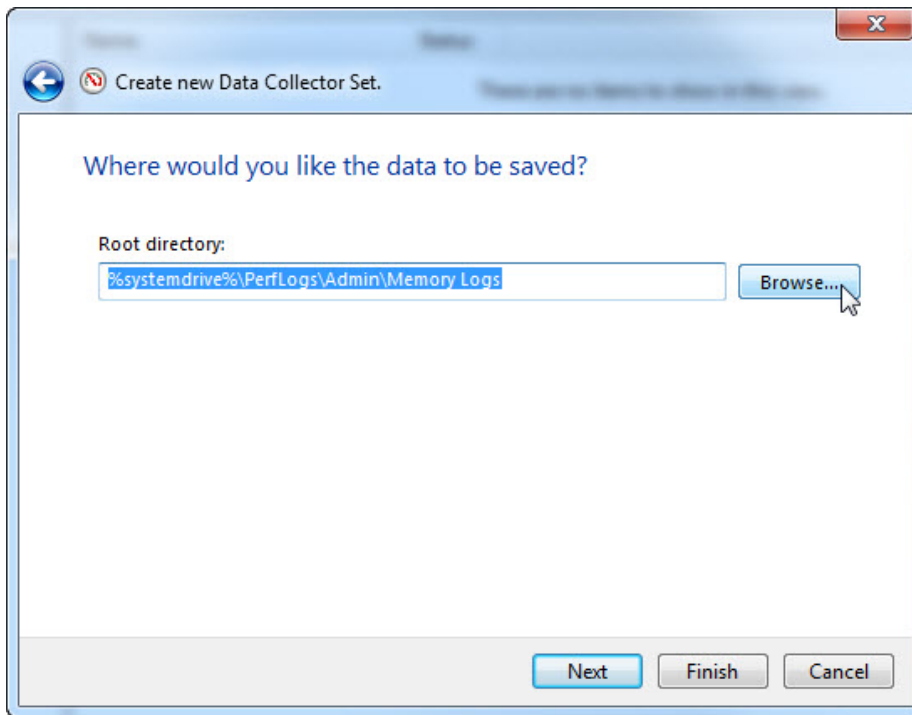


Click **OK**.

Set the Sample interval field to **4** seconds.

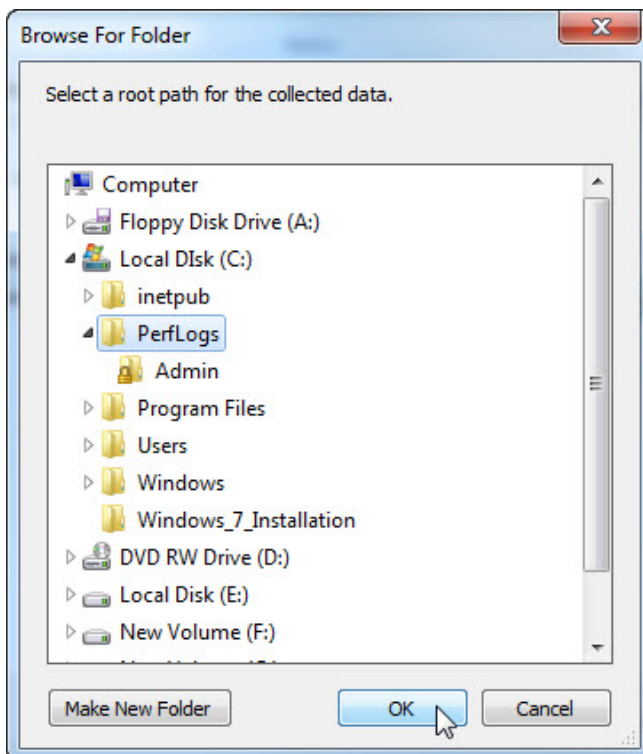


Click **Next**.



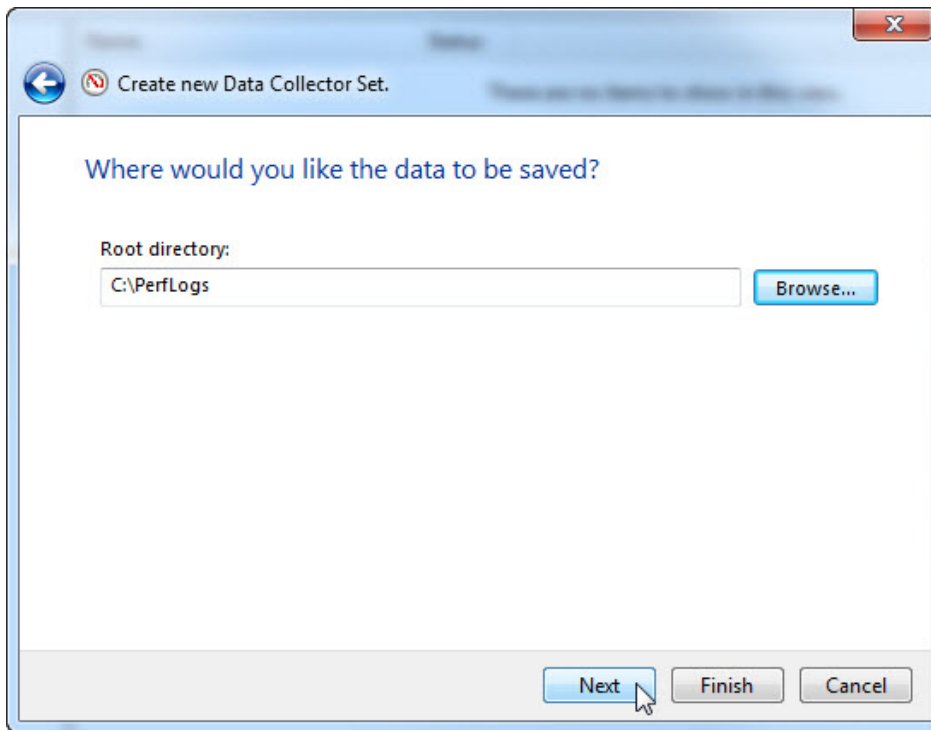
Click **Browse**.

The "Browse For Folder" window opens.



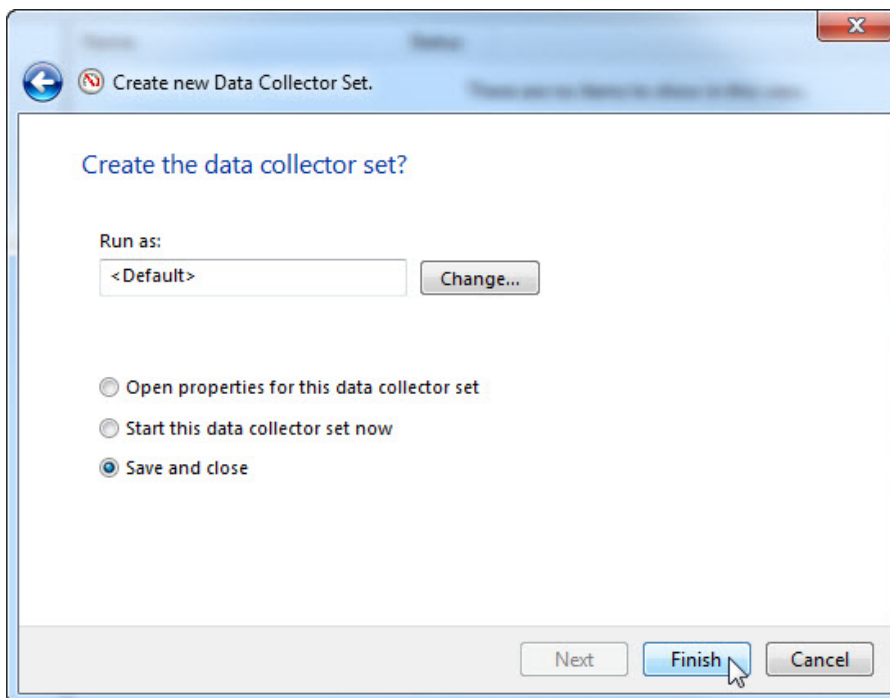
Select drive **(C:)** > **PerfLogs** > **OK**.

The “Where would you like the data to be saved?” window appears.



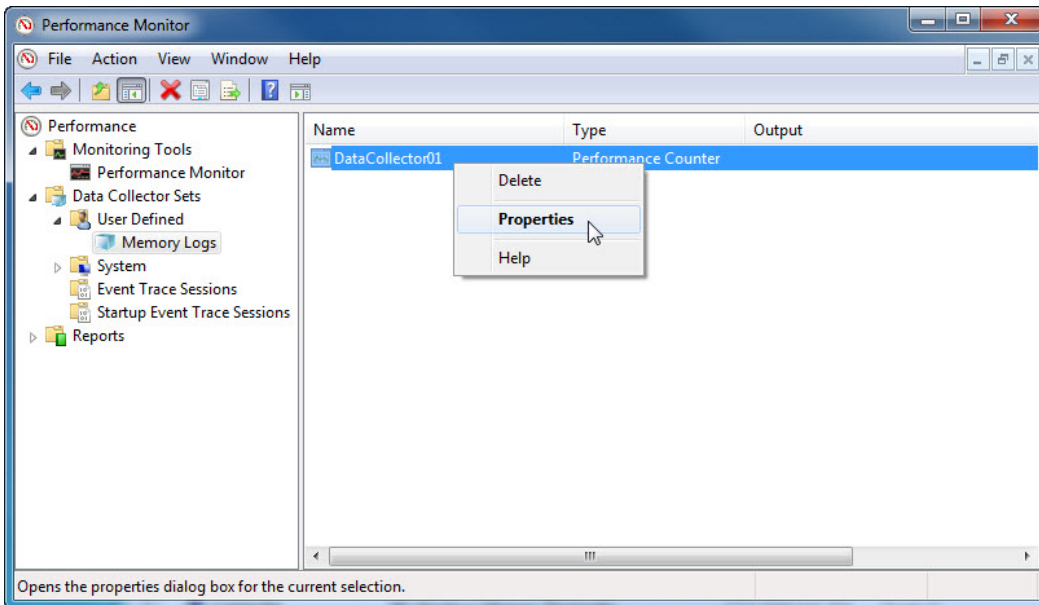
Click **Next**.

The “Create the data collector set?” screen appears.

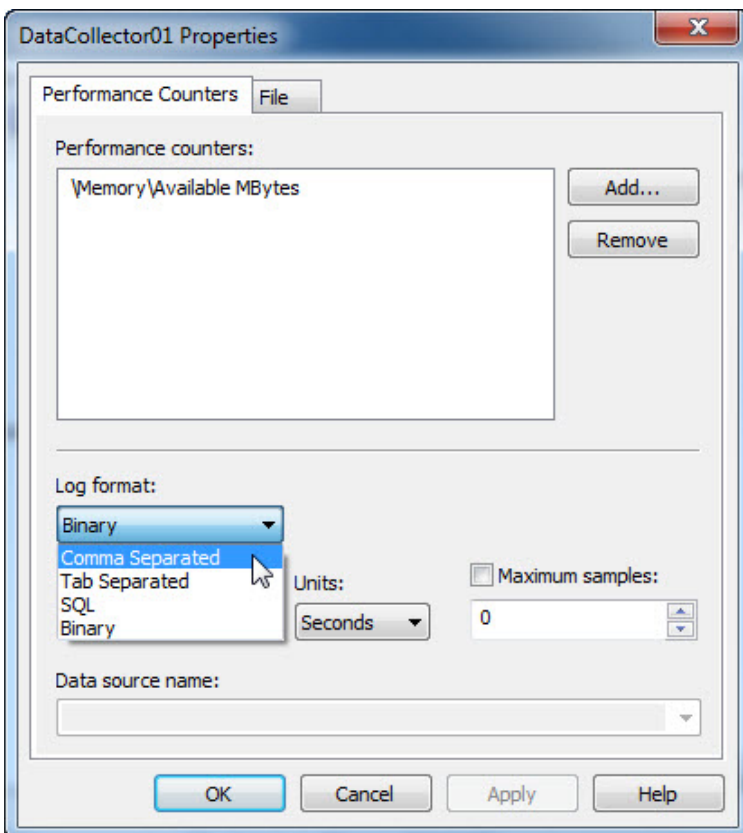


Click **Finish**.

Expand **User Defined** > select **Memory Logs** > right-click **Data Collector01** > **Properties**.

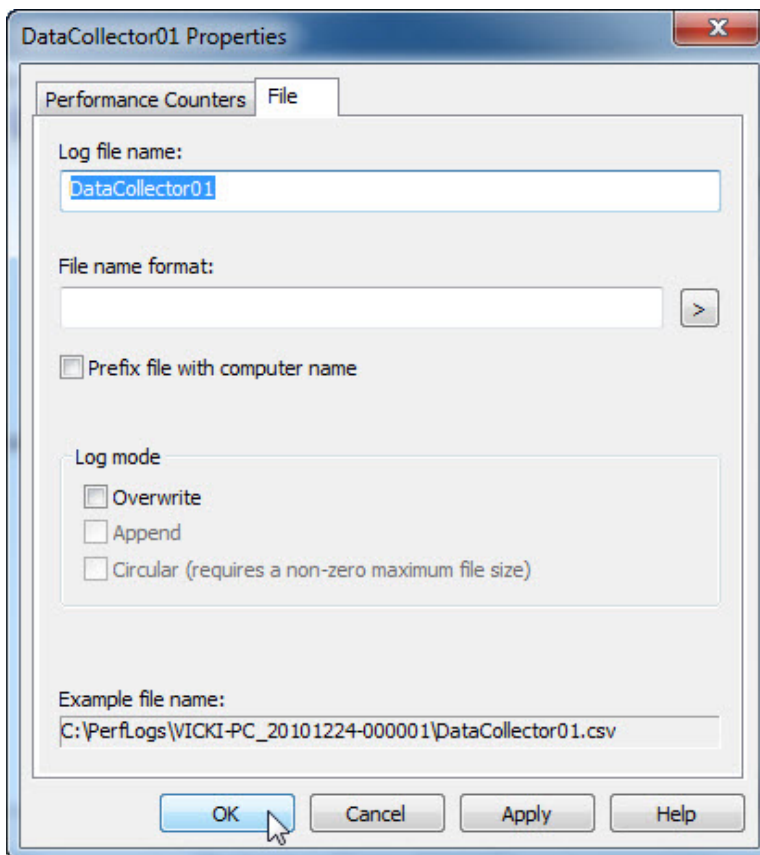


The “DataCollector01 Properties” window opens.



Change the Log format: field to **Comma Separated**.

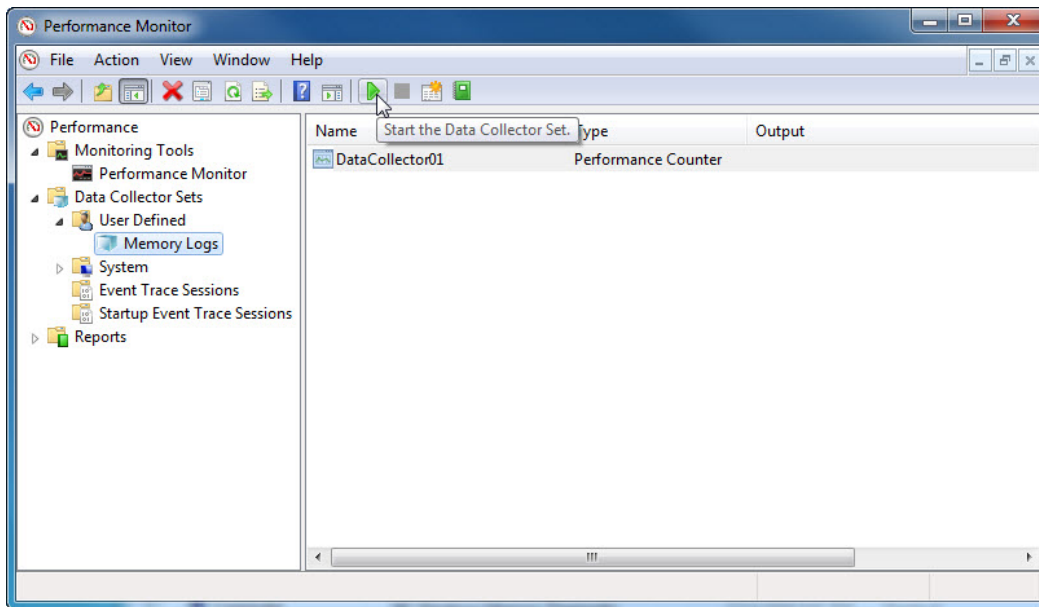
Click the **File** tab.



What is the full path name to the example file name?

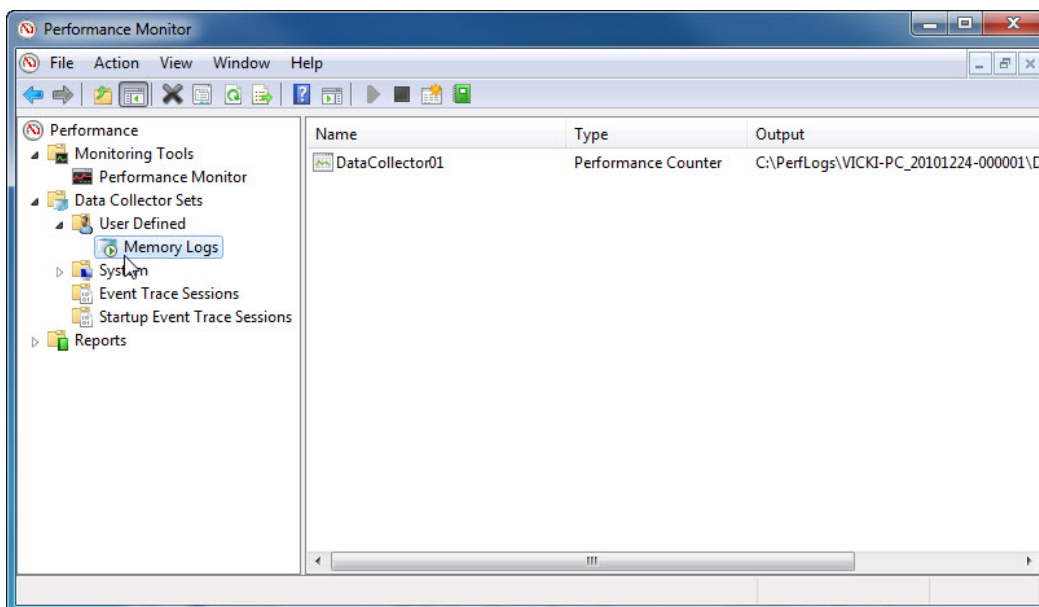
Click **OK**.

Select the **Memory Logs** icon in the left pane of the "Performance Monitor" window.

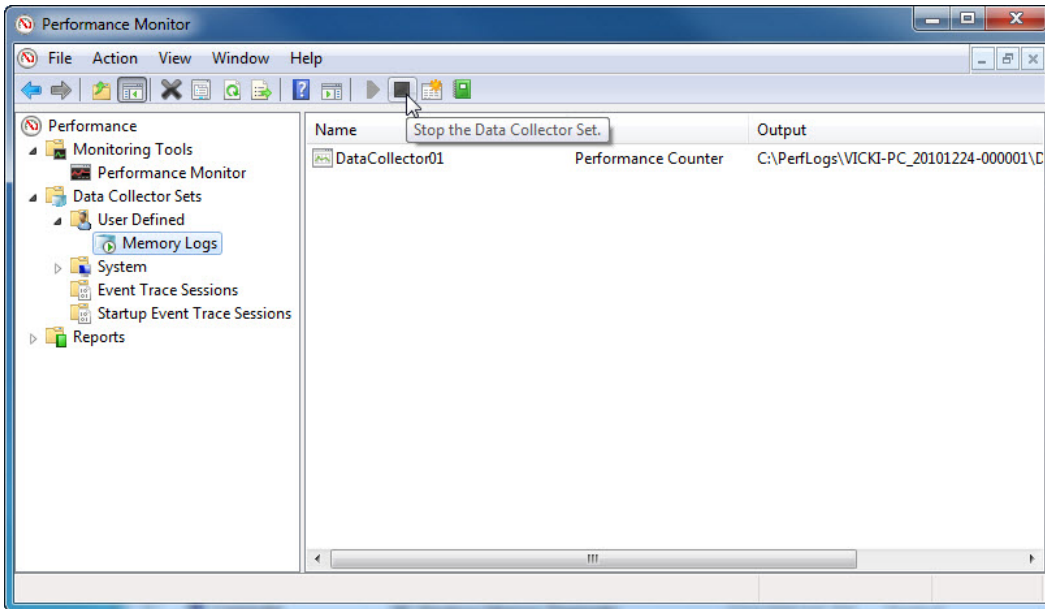


Click the **green arrow** icon to start the data collection set.

Notice a green arrow is placed on top of the Memory Logs icon.

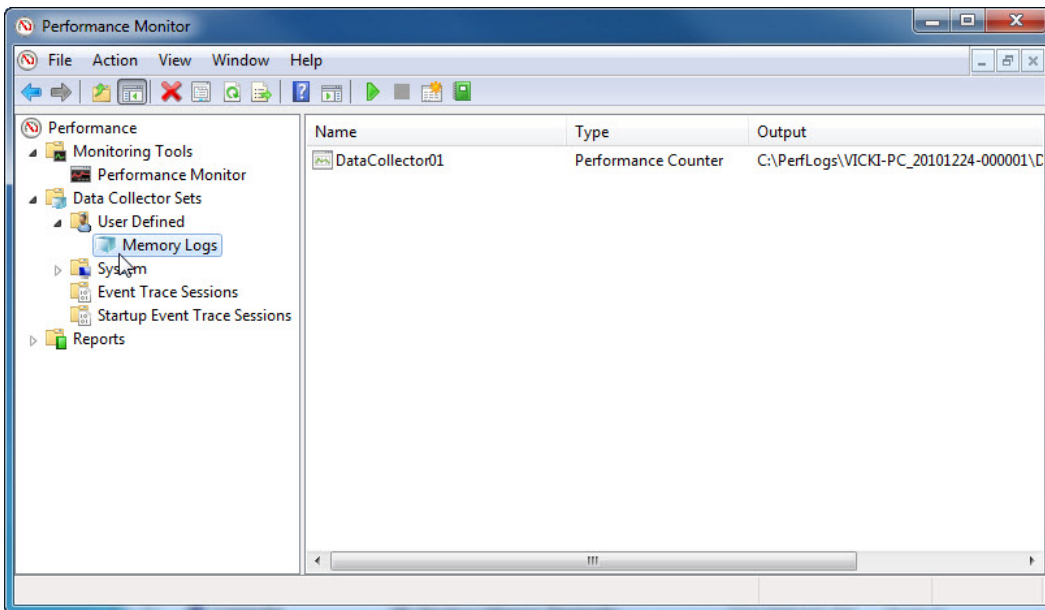


To force the computer to use some of the available memory, open and close a browser.

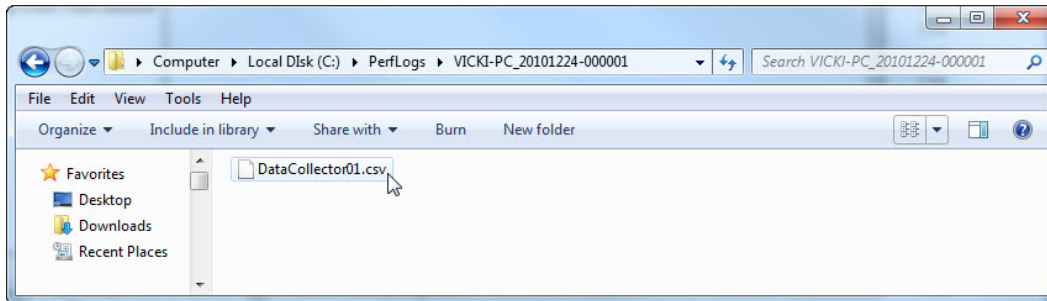


Click the **black box** icon to stop the data collection set.

What change do you notice for the Memory Logs icon?

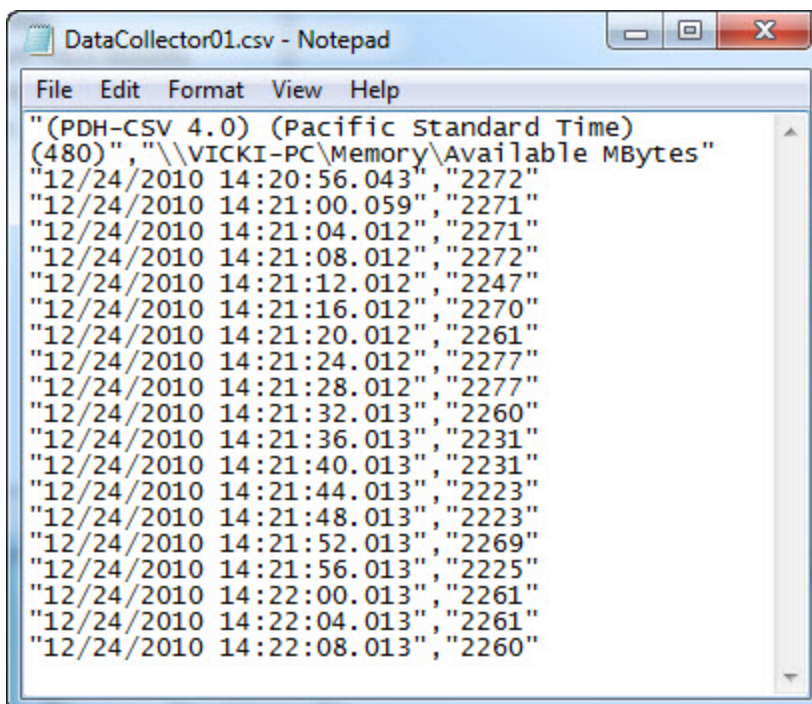


Click **Start > Computer > double-click drive C: > PerfLogs > Continue > VICKI-PC_20101224-00001 > Continue.**



Double-click **DataCollector01.csv** file.

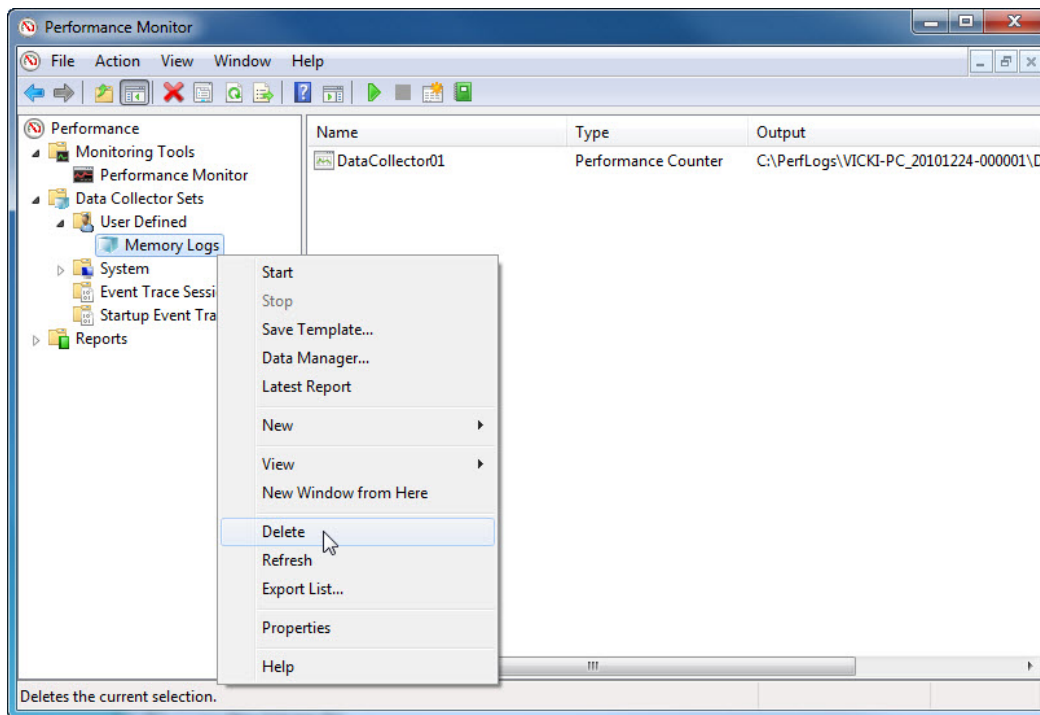
Note: If the "Windows cannot open the file:" message appears, select radio button **Select a program from a list of installed programs > OK > Notepad > OK**.



What does the column farthest to the right show?

Close the **DataCollector01.csv** file and the window with the PerfLogs folder.

Select the "Performance Monitor" window.



Right-click **Memory Logs** > **Delete** > **Yes**.

Open drive **C:** > **PerfLogs** folder > right-click **VICKI-PC_20101224-000001** > **Delete** > **Yes**.

Close all open windows.