Lab 2.2.1.13 - Monitor and Manage System Resources in Windows

This lab has been updated for use on NETLAB+.
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Introduction

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

Part 1: Starting and Stopping the Routing and Remote Access service

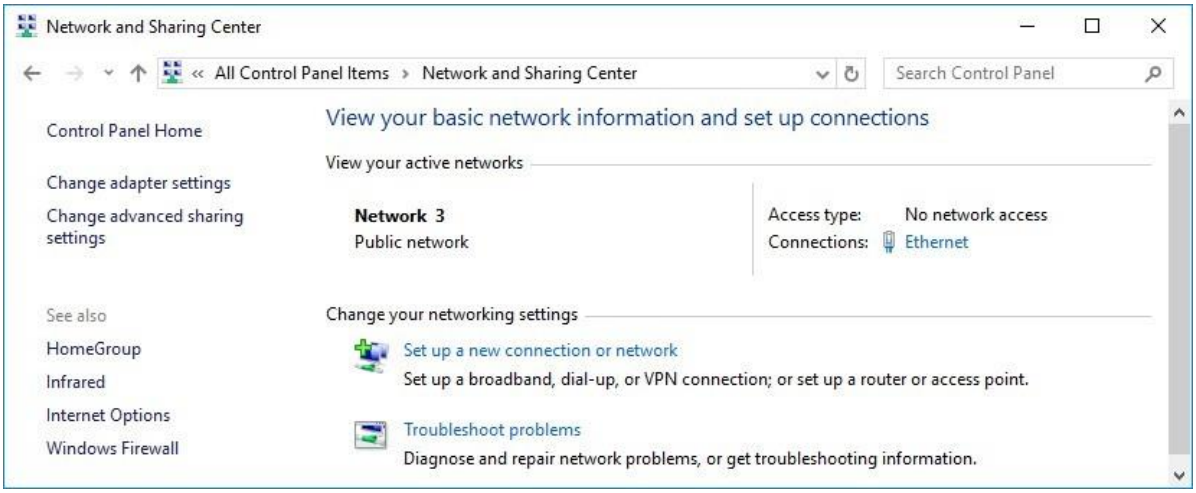
You will explore what happens when a service is stopped and then started. In this part, you will use routing and remote access service as the example service. This service allows the local device to become a router or a remote access server.

a. Access the **WinClient** machine. Unlock the machine by clicking on the drop-down arrow for that specific machine's tab and select **Send Ctrl+Alt+Del**.

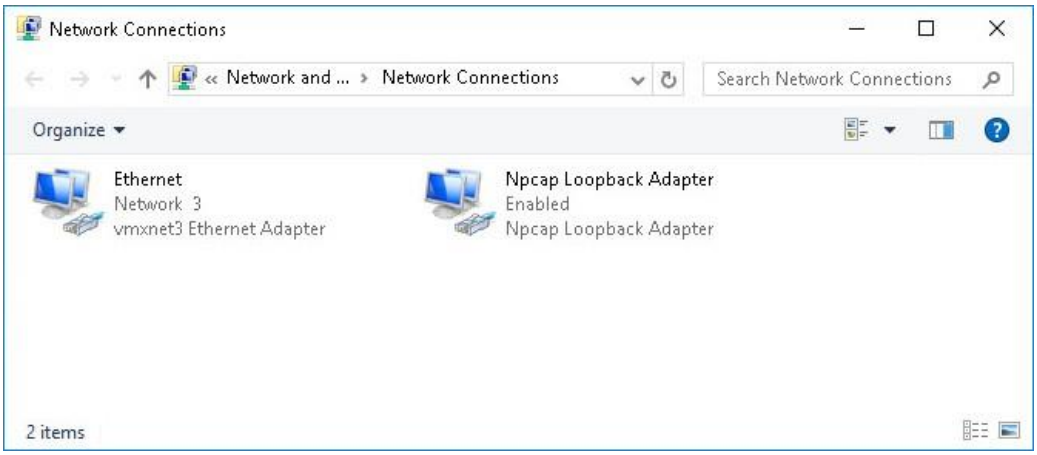
b. Login as the `cyberopsuser` using `cyberops` as the password.

c. Click **Search Windows** > Search and select **Control Panel** > Click **Network and Sharing Center**.

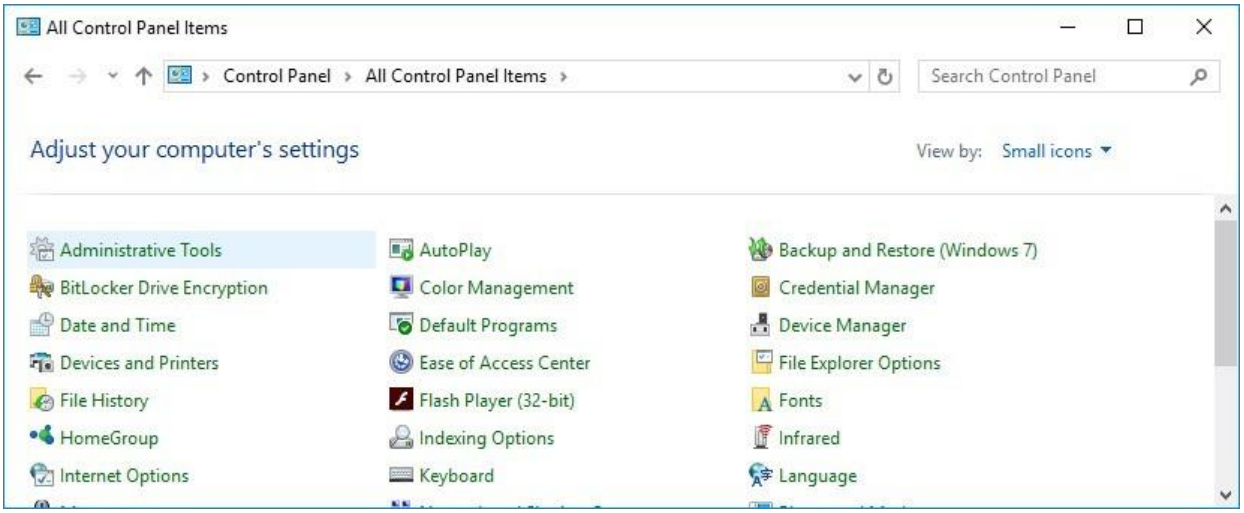
Note: If your Control Panel is set to **View by: Category**, change it to **View by: Large icons** or **View by: Small icons**. This lab assumes that you are using one of these settings.



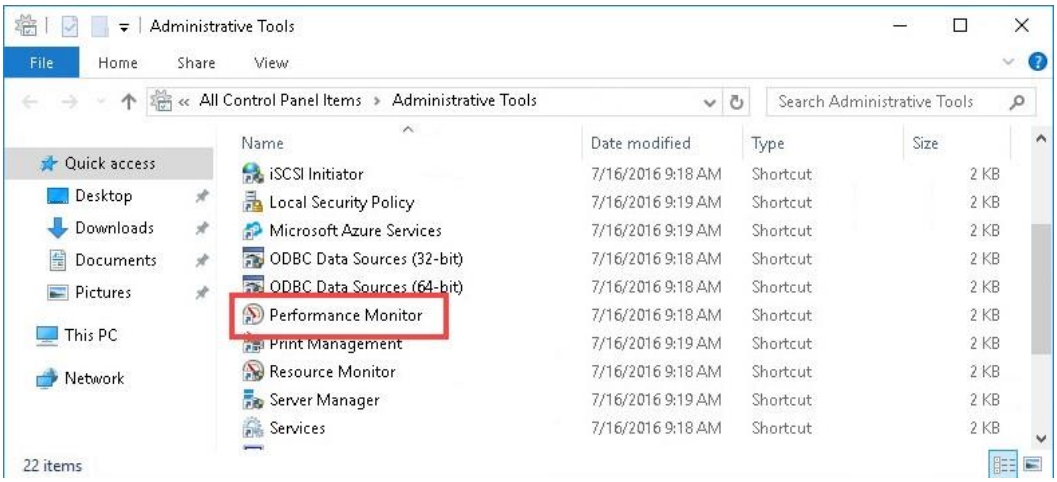
d. Click **Change adapter settings** in the left pane. Reduce the size of the **Network Connections** window and leave it open.



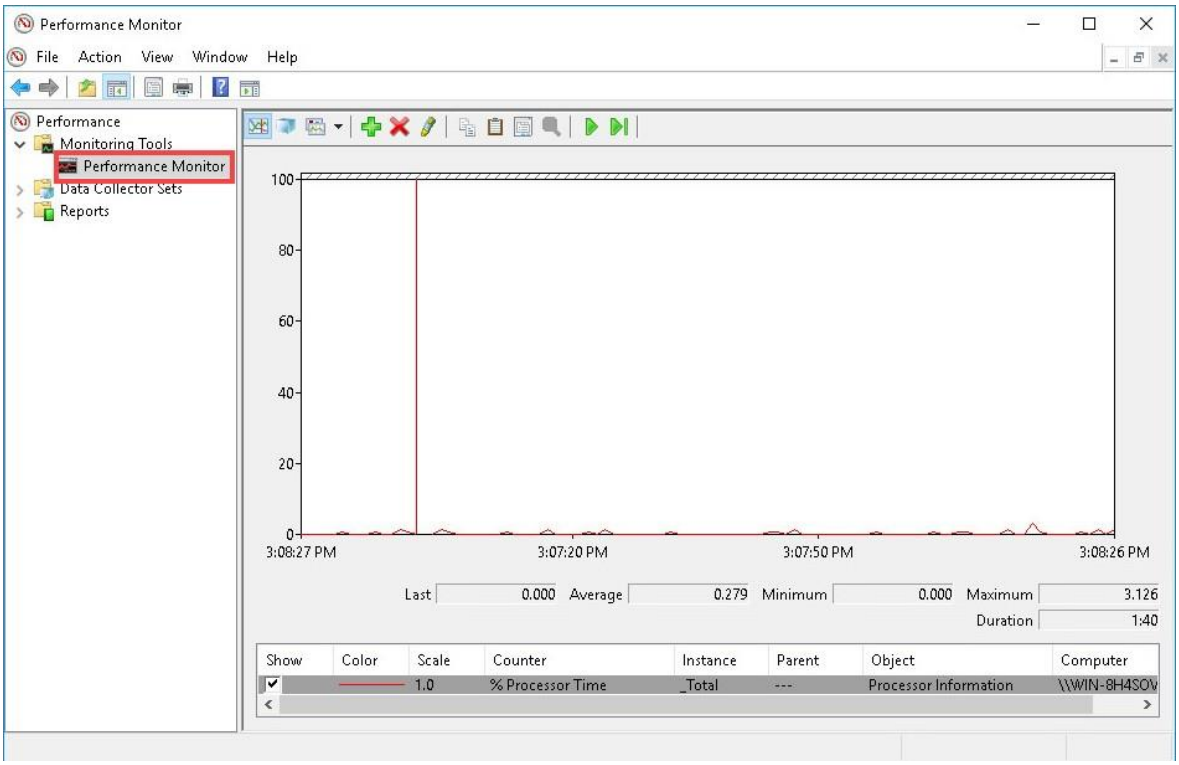
e. Navigate to the **Administrative Tools**. (Click **Search Windows** > Search for and select **Control Panel** > Click **Administrative Tools**)



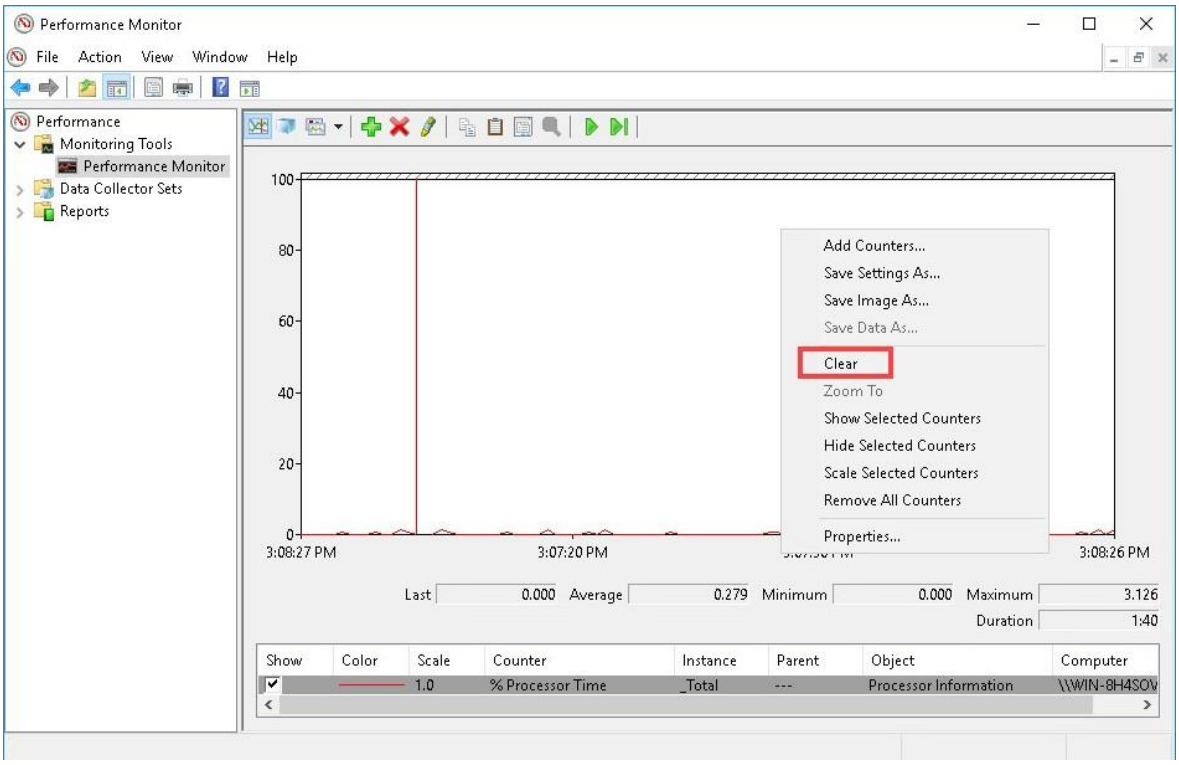
f. The **Administrative Tools** window opens. Double-click the **Performance Monitor** icon.



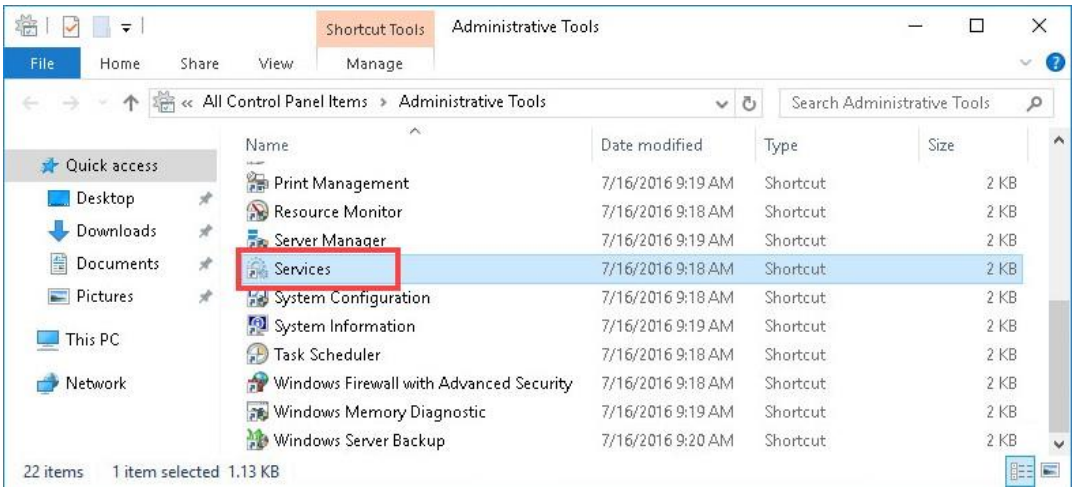
g. The **Performance Monitor** window opens. Make sure **Performance Monitor** in the left pane is highlighted. Click the **Freeze Display** icon (pause button) to stop the recording.



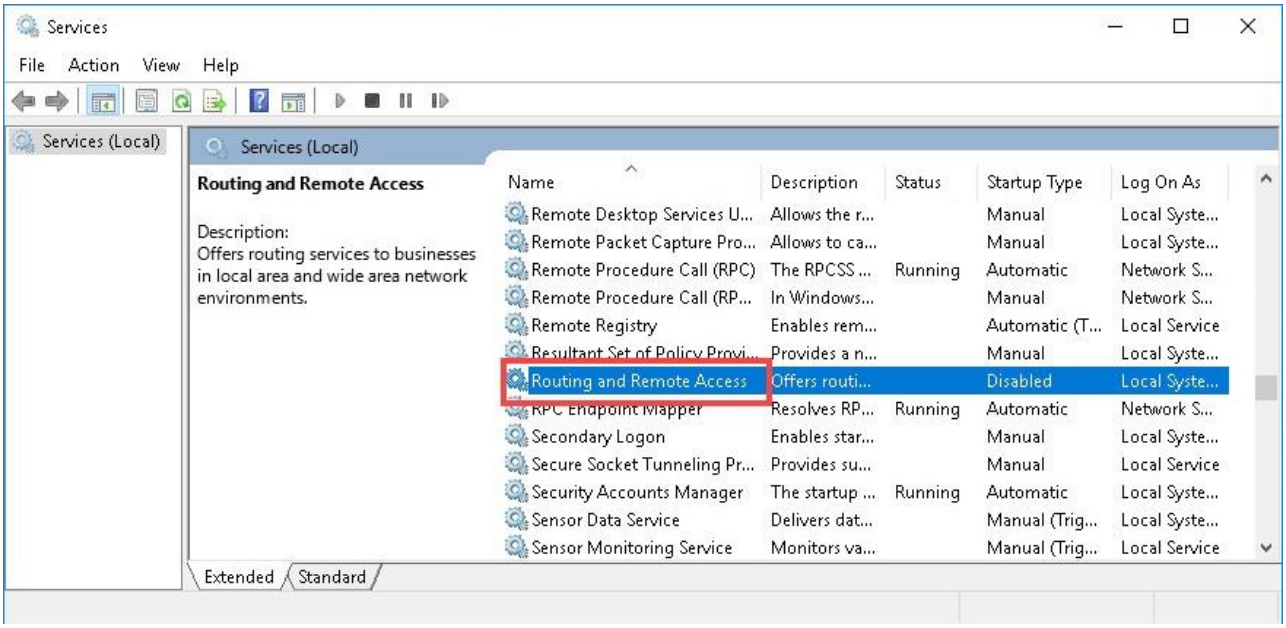
h. Right-click the **Performance Monitor** menu bar and select **Clear** to clear the graph. Leave this window open.



i. Navigate to the **Administrative Tools** window and double-click **Services**.

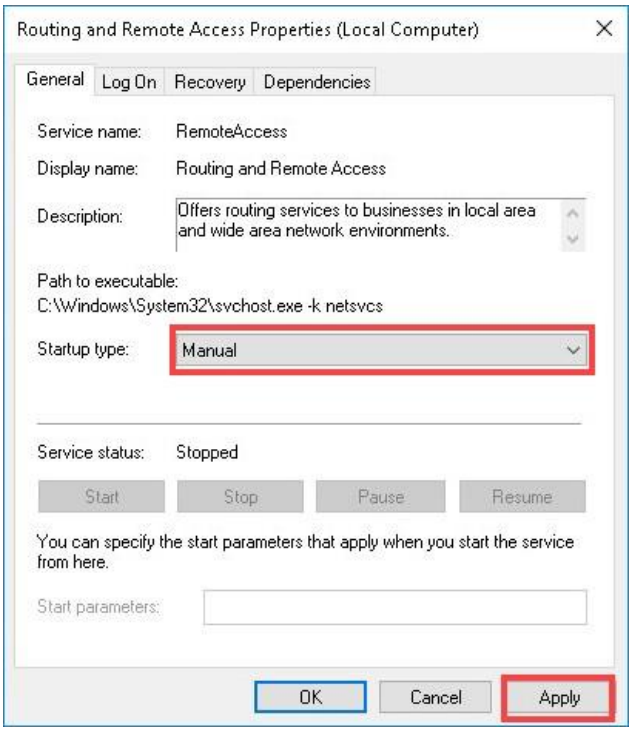


j. Expand the width of the **Services** window so you have a clear view of the content. Scroll down in the right pane until you see the service Routing and Remote Access. Double-click **Routing and Remote Access**.



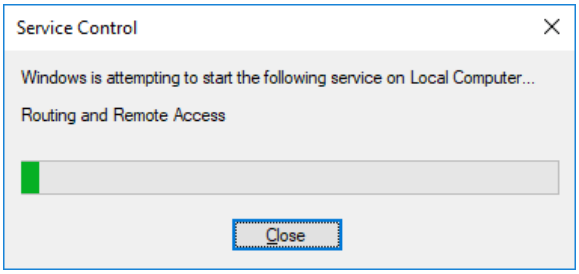
k. The **Routing and Remote Access Properties (Local Computer)** window opens. In the **Startup type** drop-down field, select **Manual** and then click **Apply**.

The Start button is now active. Do NOT click the Start button yet. Leave this window open.



l. Navigate to **Performance Monitor** window. Click the **Unfreeze Display** icon to start the recording.

m. Click the **Routing and Remote Access Properties (Local Computer)** window. To start the service, click **Start**. A window with a progress bar opens.



n. Click **OK** to close the Routing and Remote Access Properties window.

o. Navigate to **Network Connections** window. Press the function key **F5** to refresh the content.

What changes appear in the window after starting the **Routing and Remote Access** service?

The service status turns into running and startup type turns into manual.

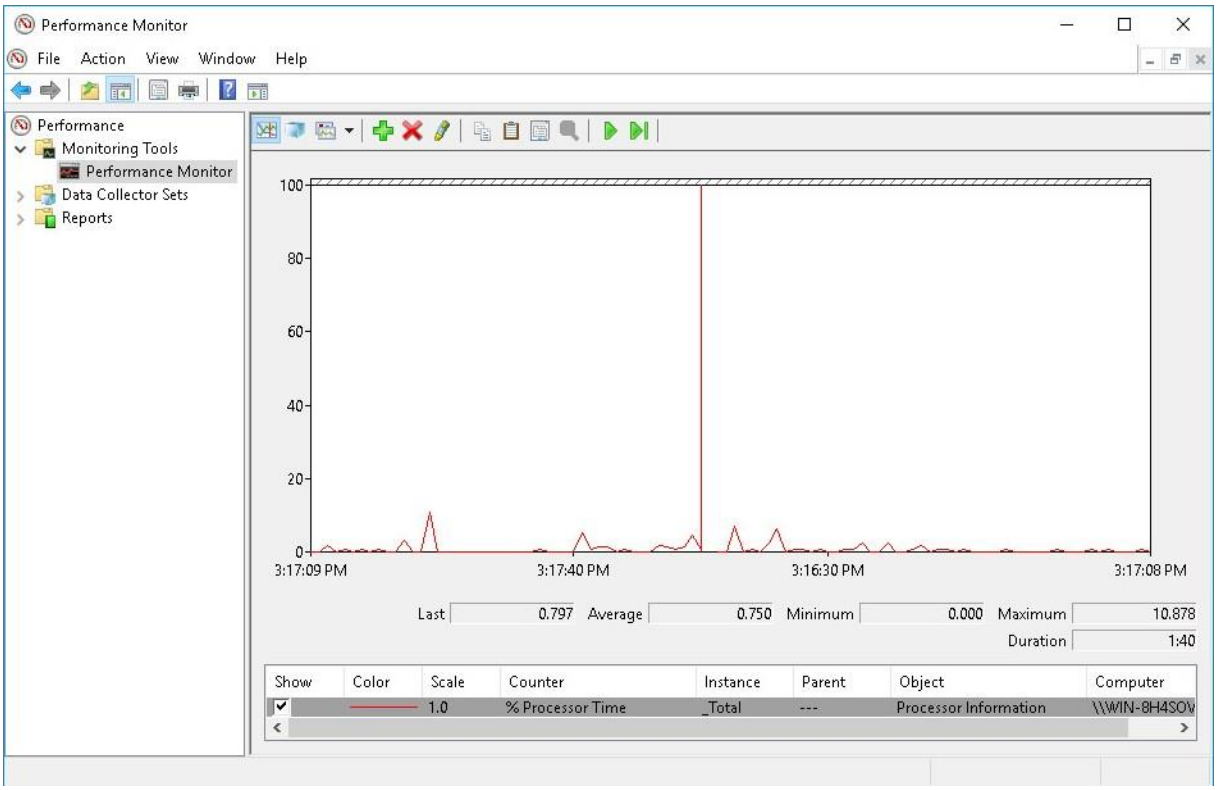
p. Navigate to the **Services** window and double-click **Routing and Remote Access.** Click **Stop**.

q. Once stopped, navigate to **Network Connections** window.

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

The incoming connection is no longer displayed.

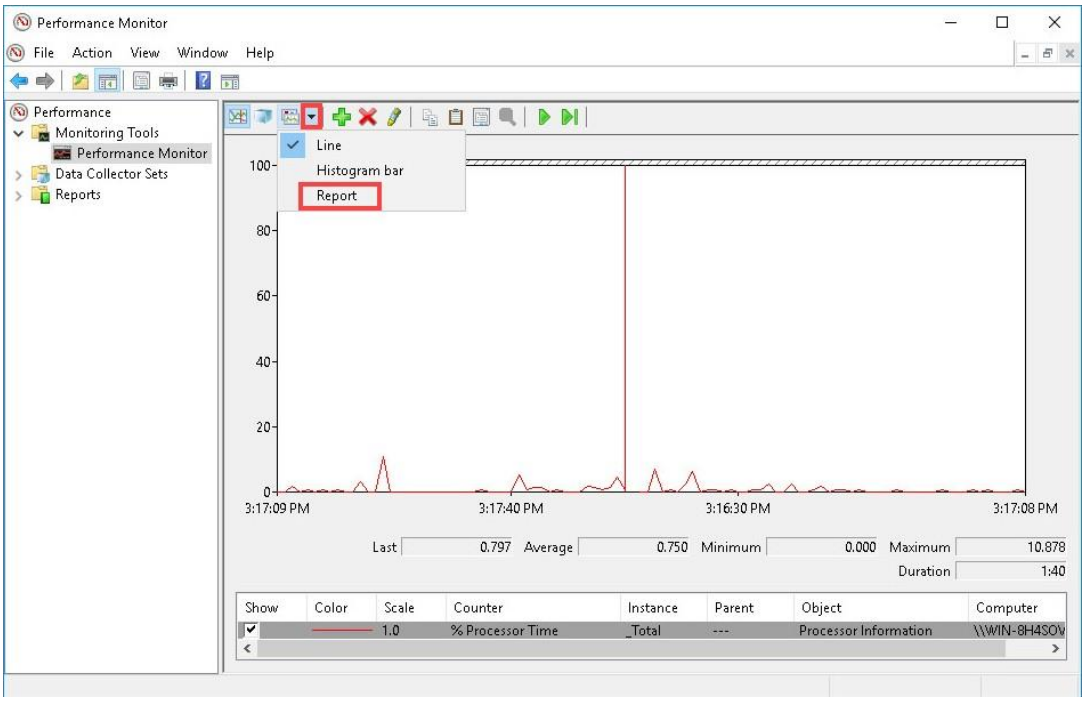
r. Navigate to **Performance Monitor** window and click the **Freeze Display** icon to stop the recording.



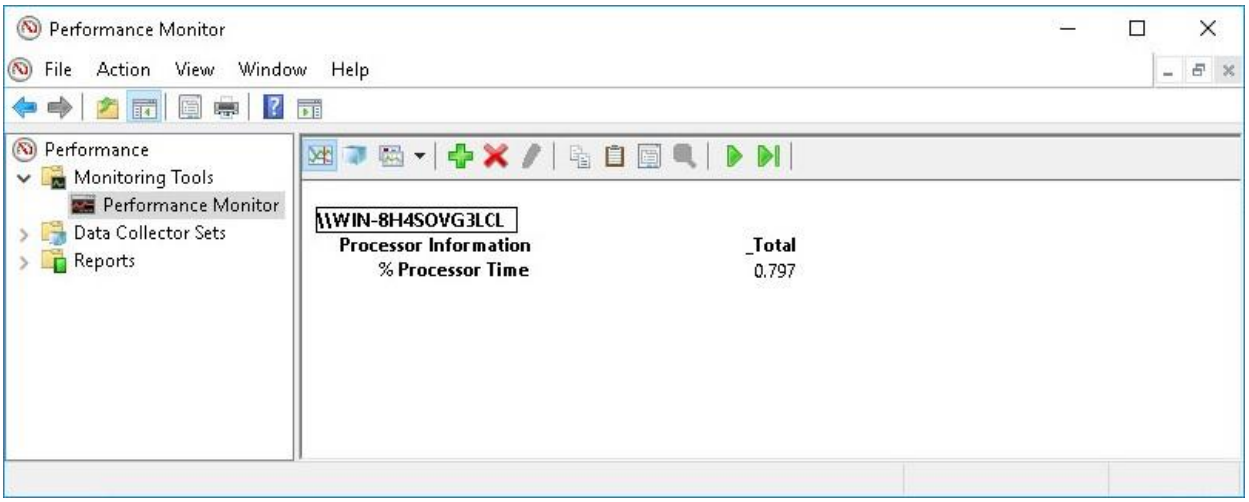
Which Counter is being recorded the most in the graph (hint: look at the graph color and Counter color)?

The processor time will record the graph.

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



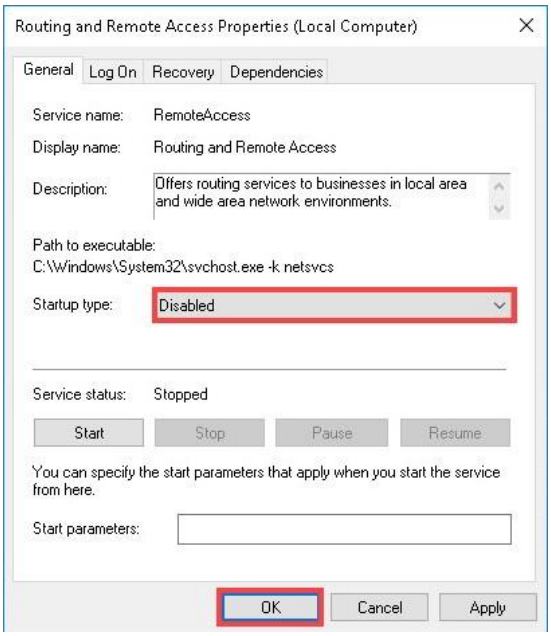
t. The display changes to report view.



What values are displayed by the counter?

0.824

u. Click the **Routing and Remote Access Properties (Local Computer)** window. In the *Startup* type field, select **Disabled** and click **OK**.



v. Click the **Services** window.

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

The status service is stopped and startup type is disabled.

w. Click the **Performance Monitor** window. Click the **Unfreeze Display** icon to start the recording.

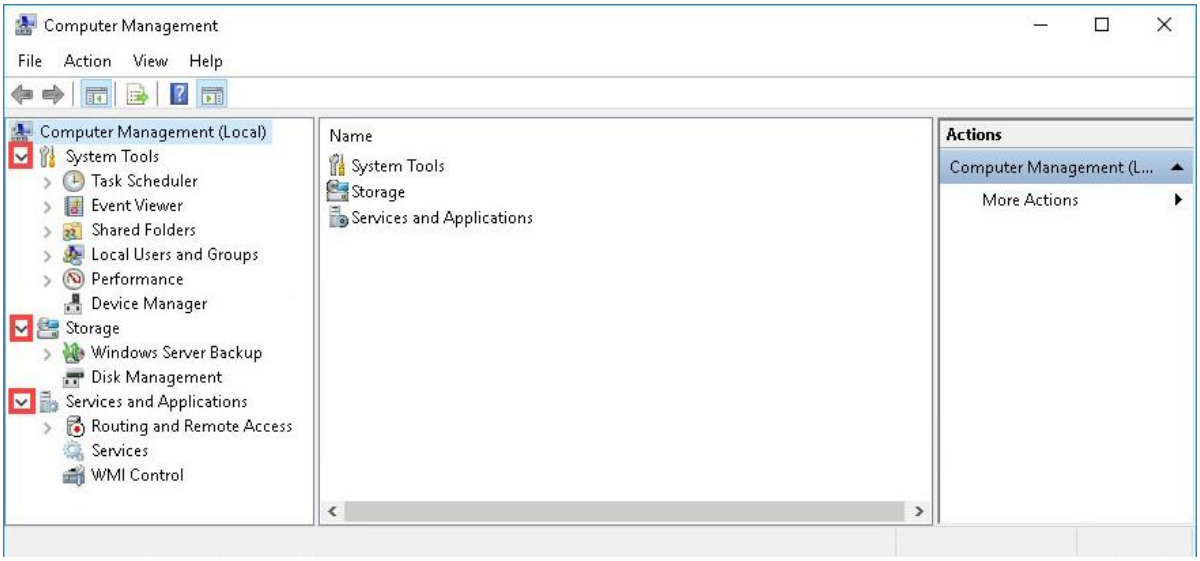
x. Close all open windows you opened during *Part 1* of this lab.

Part 2: Working in the Computer Management Utility

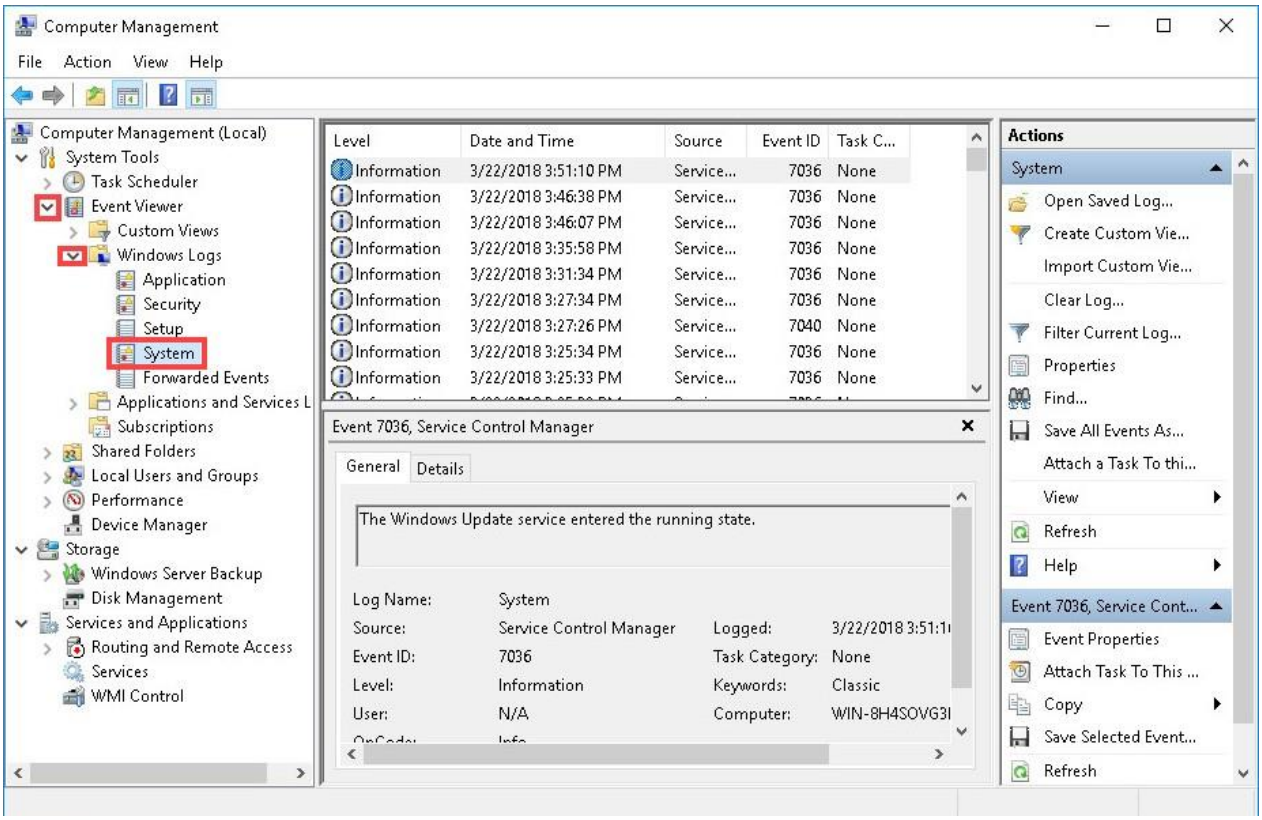
The *Computer Management* is used to manage a local or remote computer. The tools in this utility are grouped into three categories: system tools, storage, and services and applications.

a. Navigate to **Control Panel** > **Administrative Tools**. Select **Computer Management**.

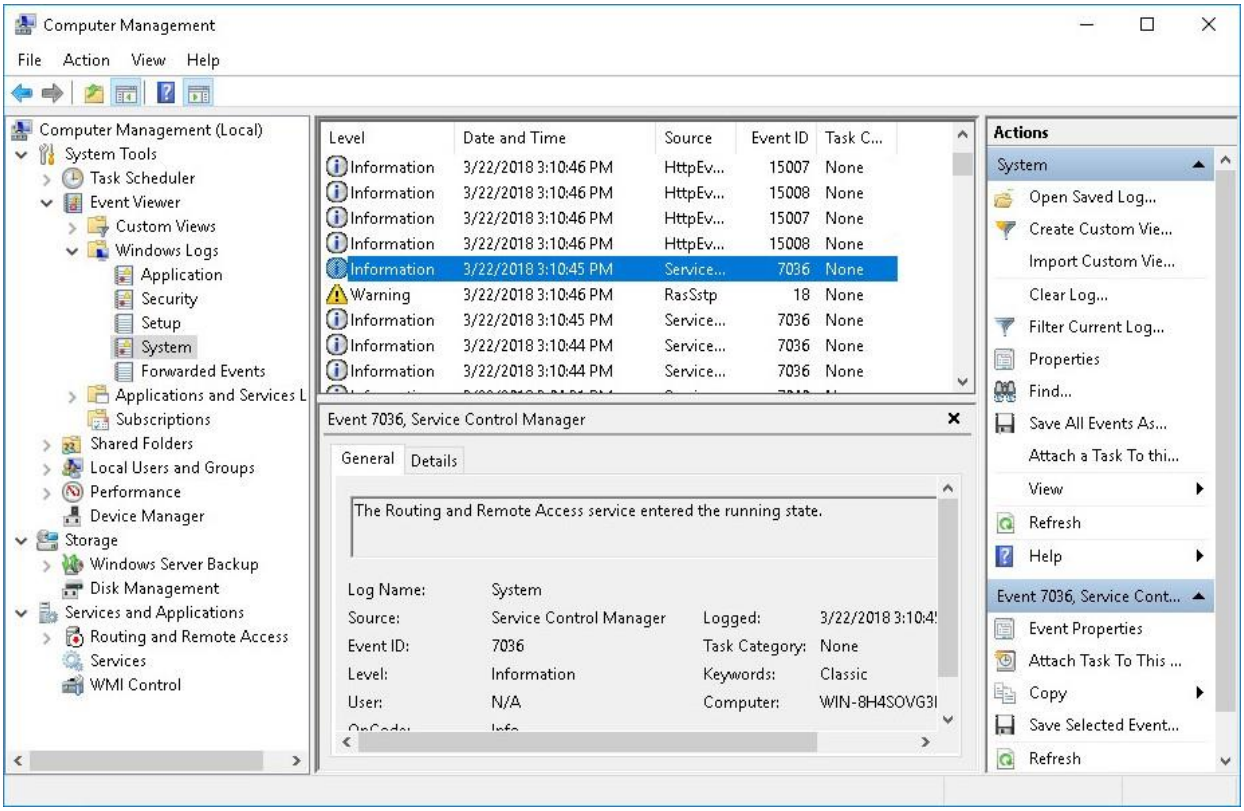
b. The **Computer Management** window opens. Expand the three categories (*System Tools*, *Storage*, and *Service and Applications*) by clicking on their respective **arrows**.



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



d. The **Event Properties** window opens for the first 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.



What are the descriptions for each of the four events?

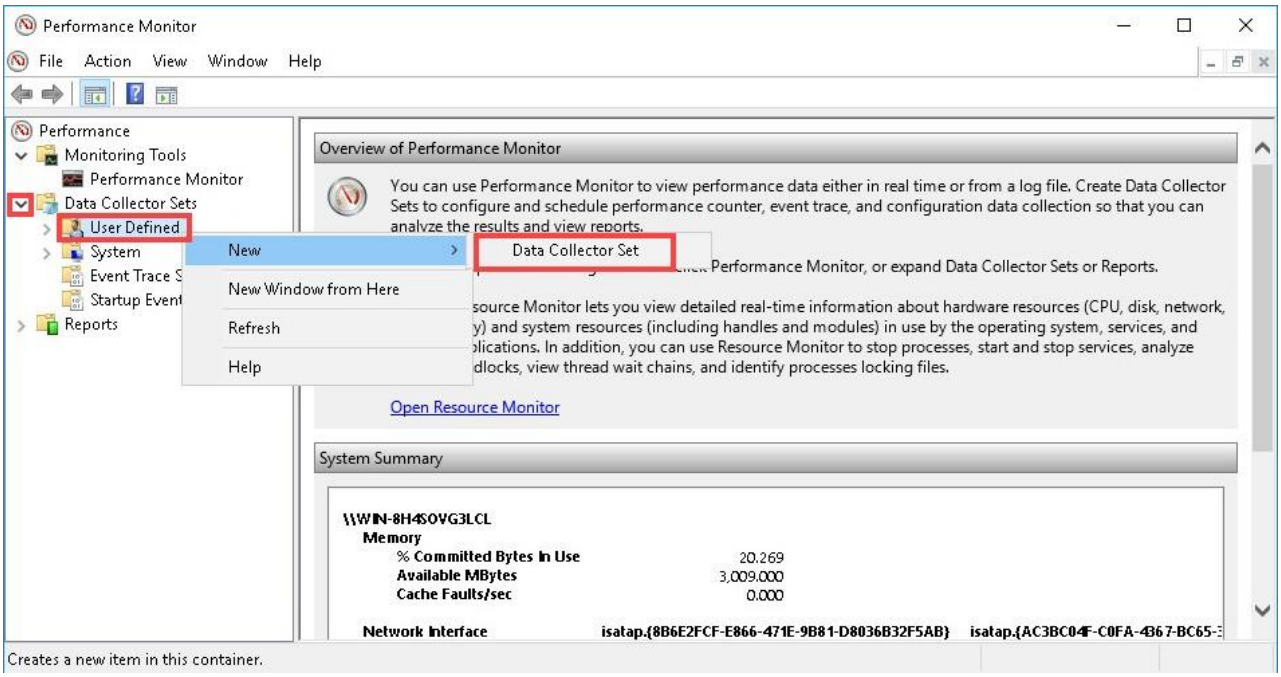
+System,-evendata ,-param 1(stop),param 2 running, binaray data, words and bytes, Start type of routing and remote access were changed from the disabled to start, entered into running state,then to stop stage,then changed from start to disabled.

e. Close all open windows.

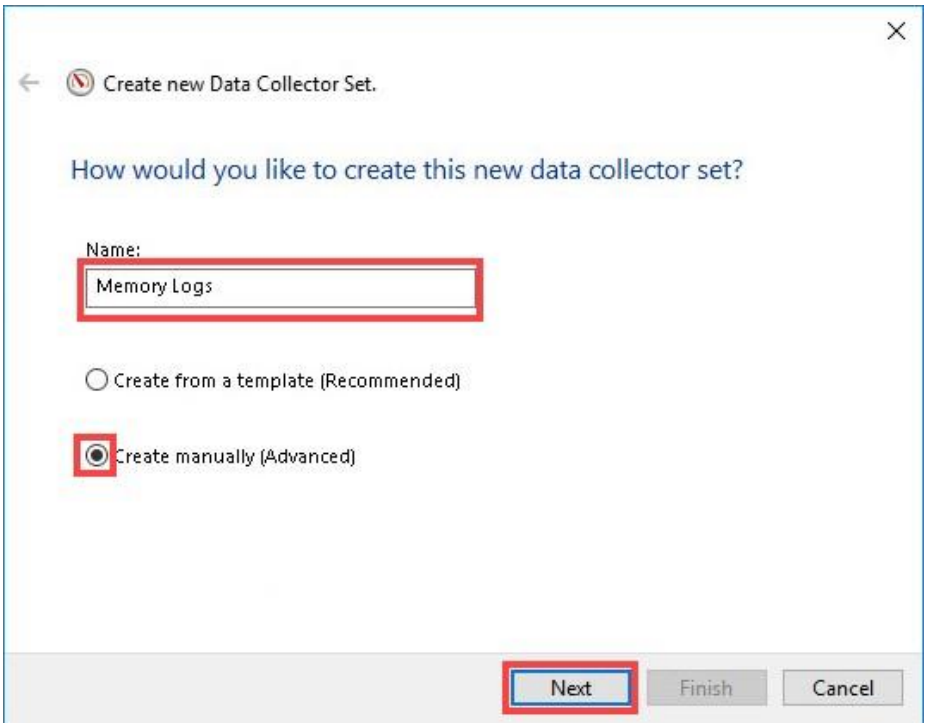
Part 3: Configuring Administrative Tools

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

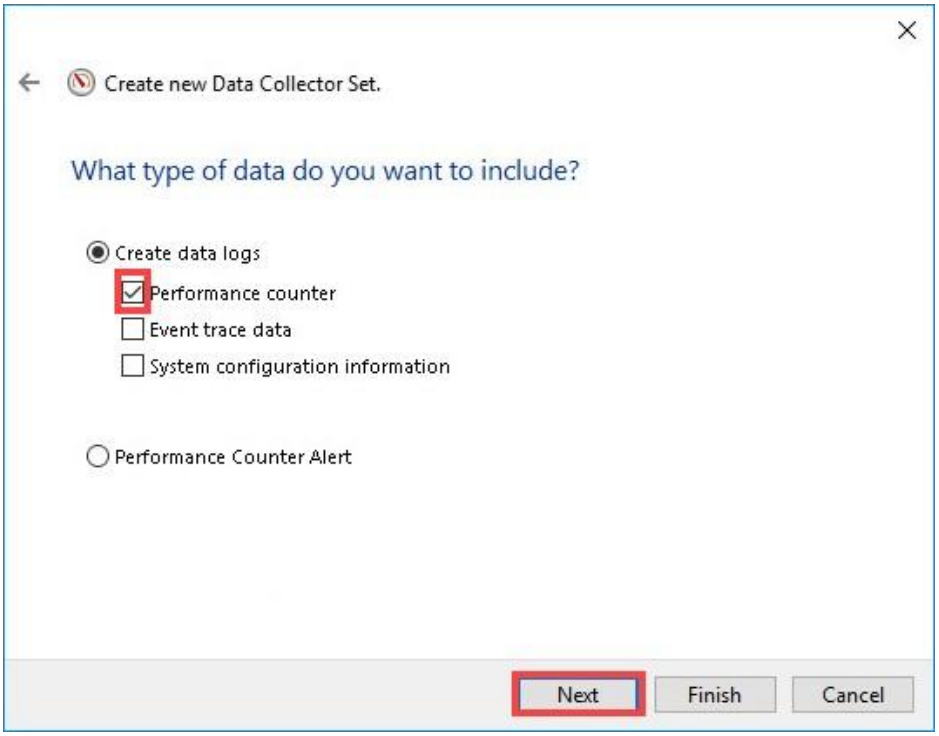
a. Navigate to **Control Panel** > **Administrative Tools** > **Performance Monitor**. The Performance Monitor window opens. Expand **Data Collector Sets**. Right-click **User Defined**, and select **New** > **Data Collector Set**.



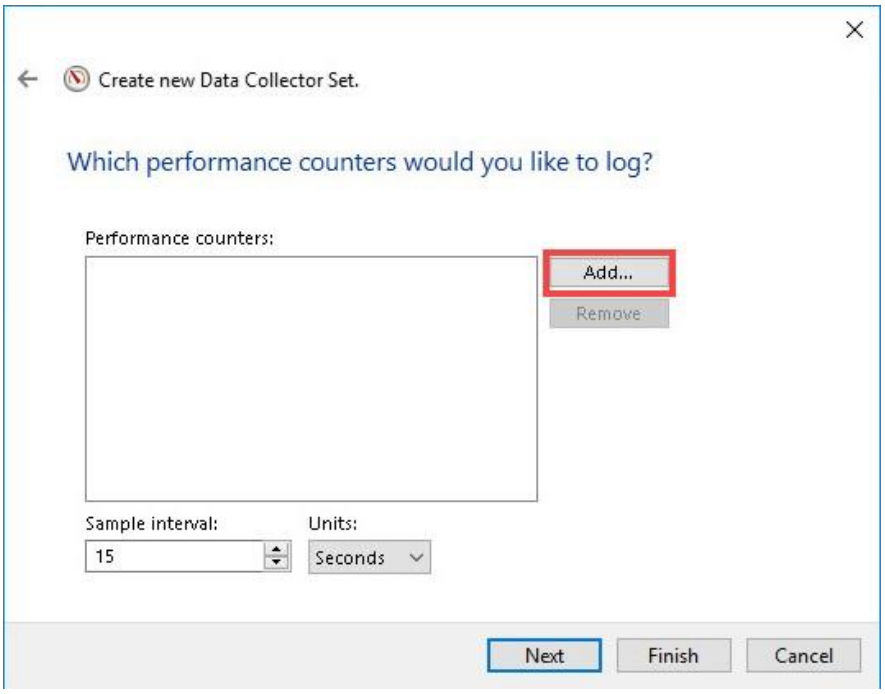
b. The *Create new Data Collector Set* window opens. In the *Name* field, type `Memory Logs`. Select the **Create manually (Advanced)** radio button and click **Next**.



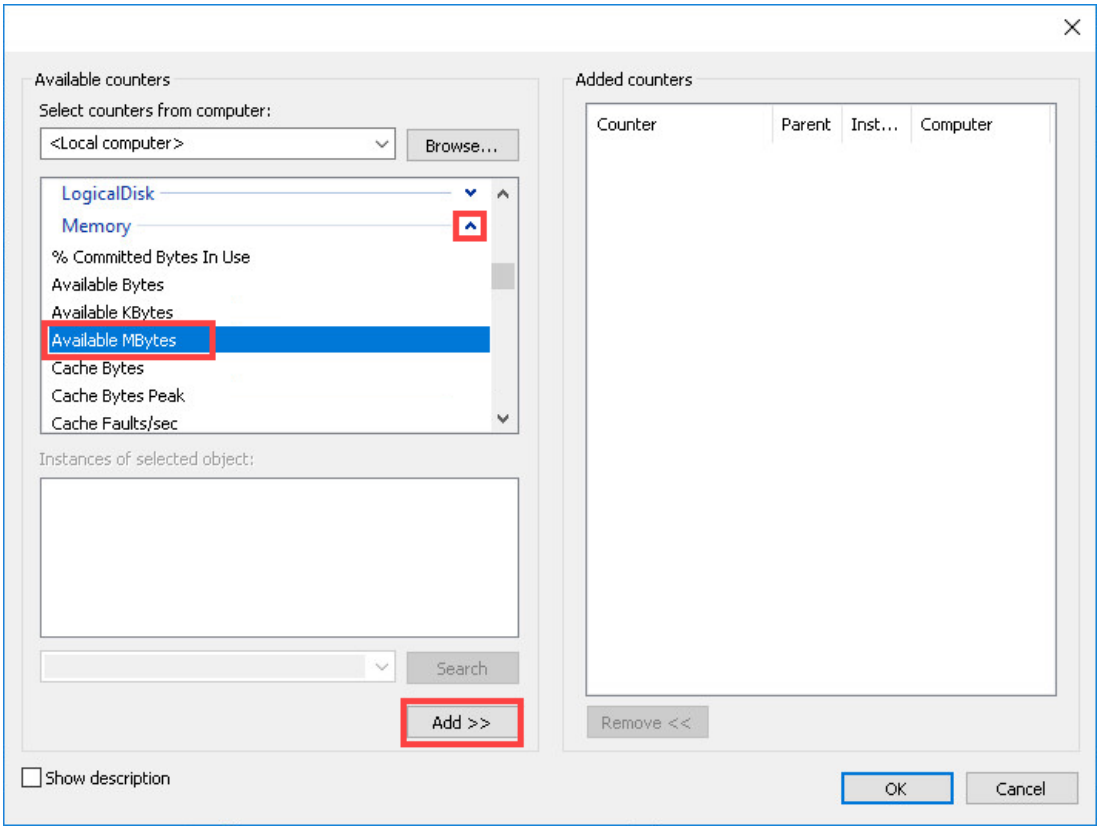
c. The *What type of data do you want to include?* screen opens. Check the **Performance counter** box then click **Next**.



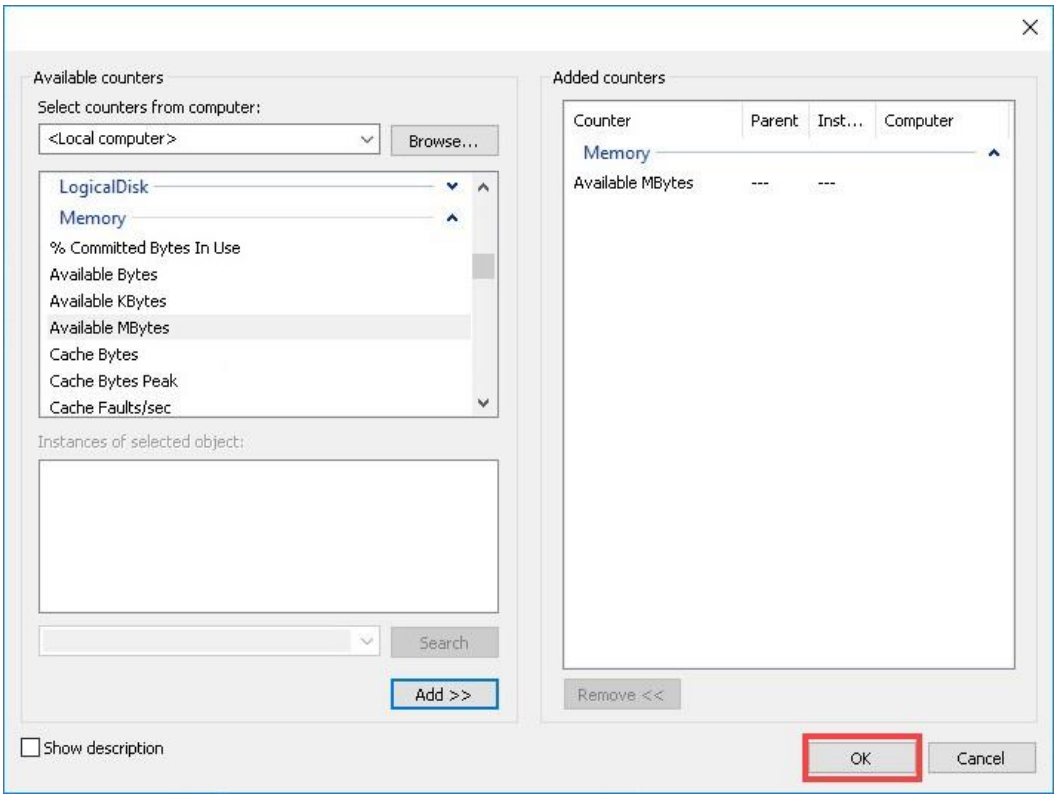
d. The *Which performance counters would you like to log?* screen opens. Click **Add**.



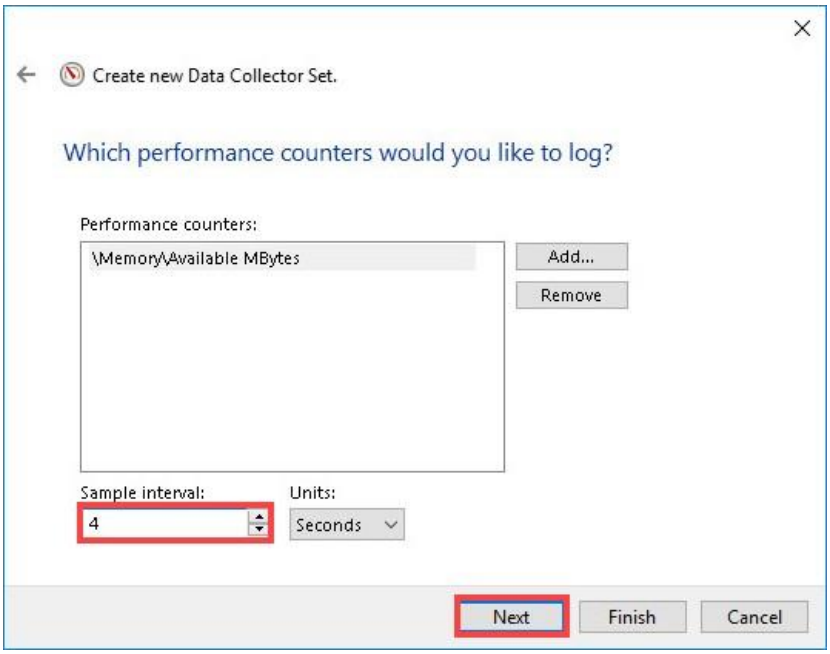
e. From the list of available counters, locate and expand **Memory**. Select **Available MBytes** and click **Add>>**.



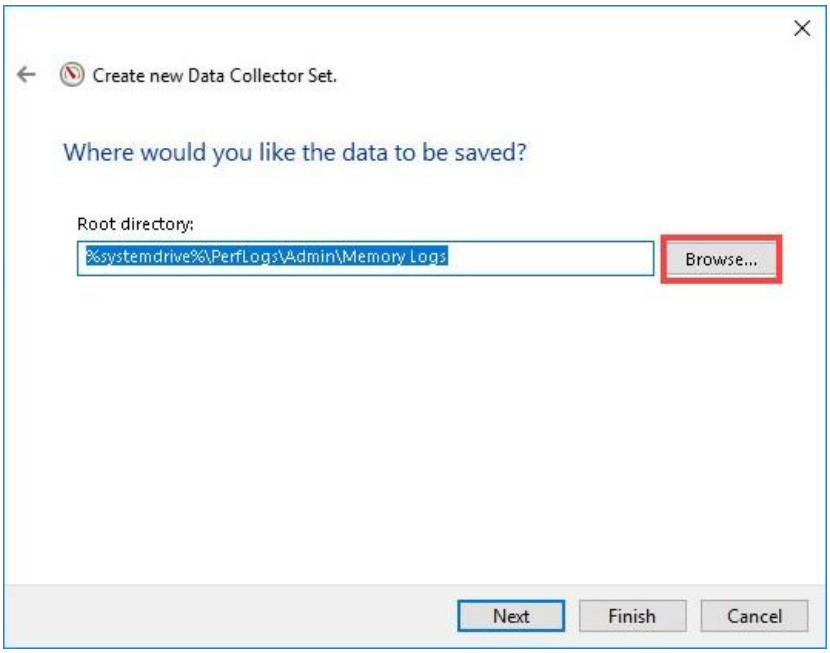
f. You should see the **Available MBytes** counter added in the right pane. Click **OK**.



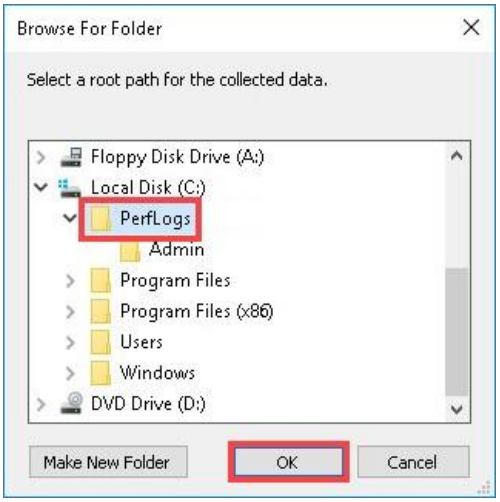
g. Set the *Sample interval* field to **4** seconds. Click **Next**.



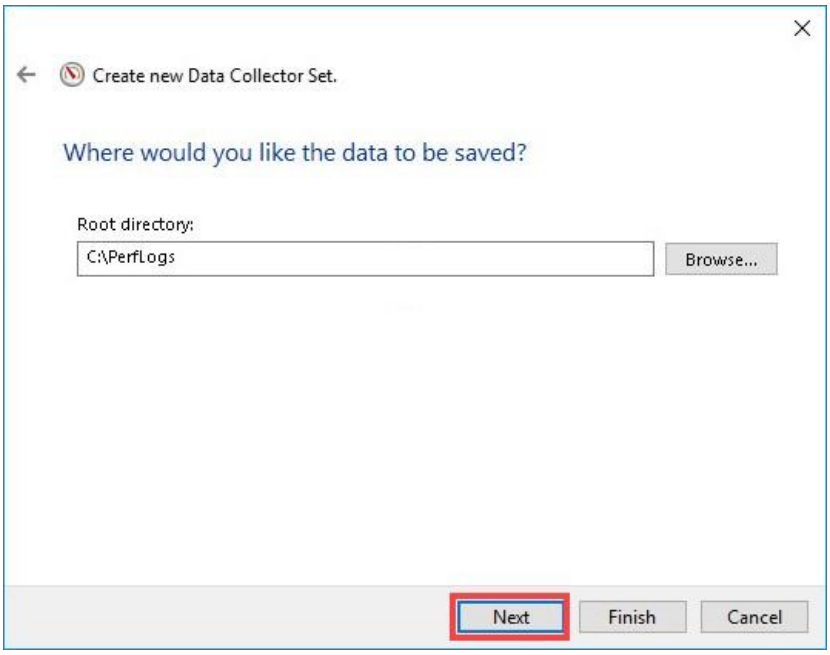
h. In the *Where would you like the data to be saved?* screen, click **Browse**.



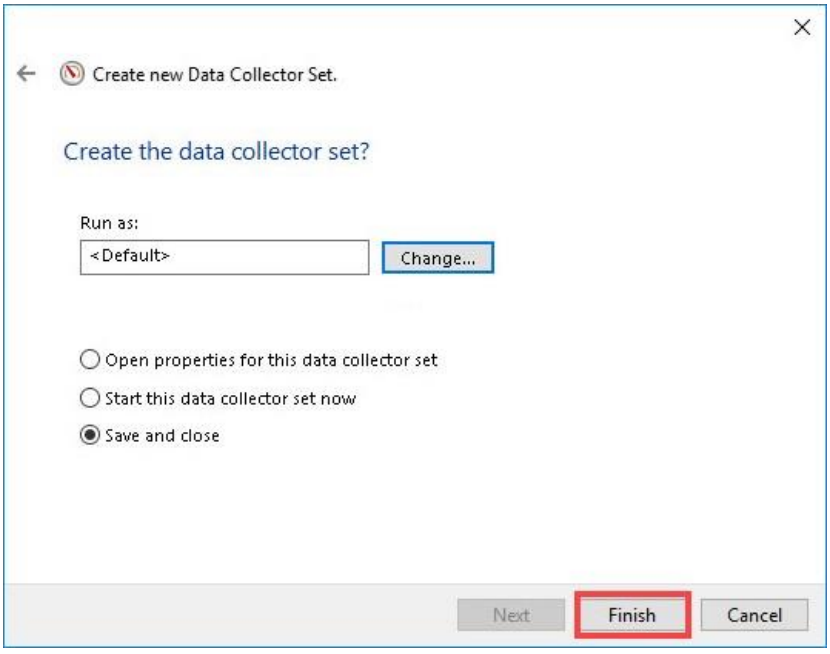
i. The *Browse For Folder* window opens. Select your **(C:)** drive which is **Local Disk (C:)** in the figure below. Select **PerfLogs** and click **OK**.



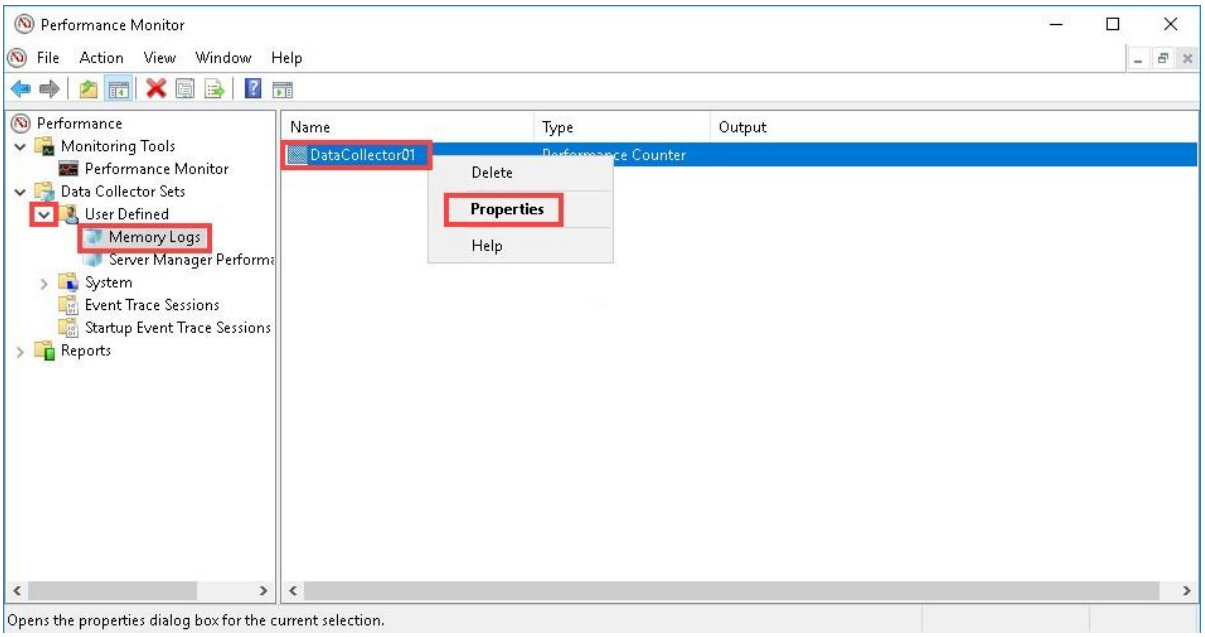
j. The *Where would you like the data to be saved?* window opens with the directory information that you selected in the previous step. Click **Next**.



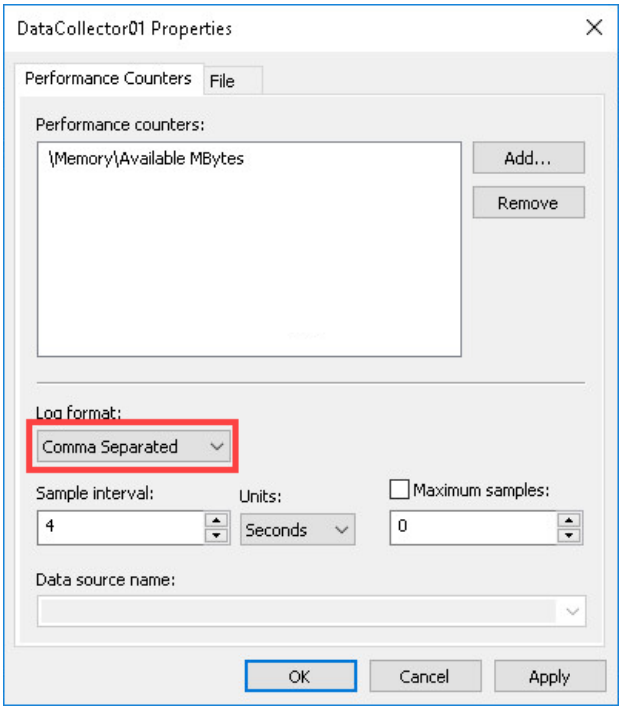
k. The *Create the data collector set?* screen opens. Click **Finish**.



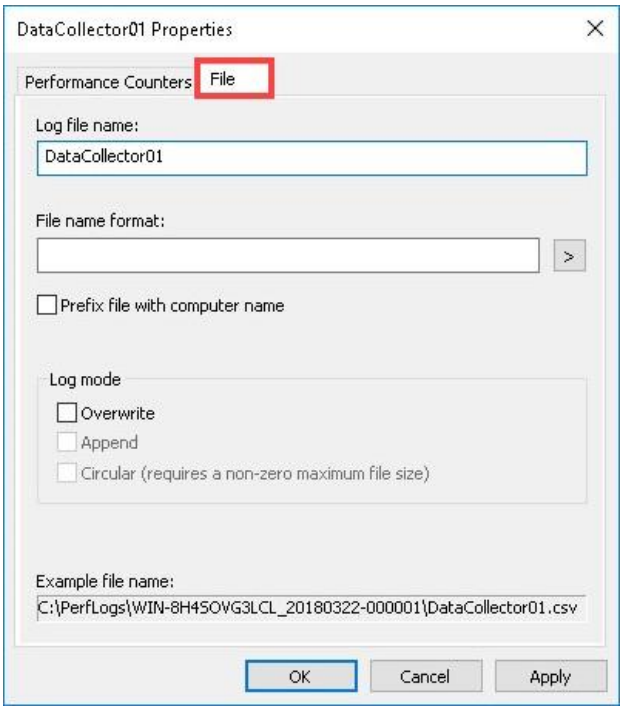
l. Expand **User Defined** and select **Memory Logs.** Right-click **Data Collector01**and select **Properties**.



m. The *DataCollector01 Properties* window opens. Change the **Log format:** field to **Comma Separated**.



n. Click the **File** tab.

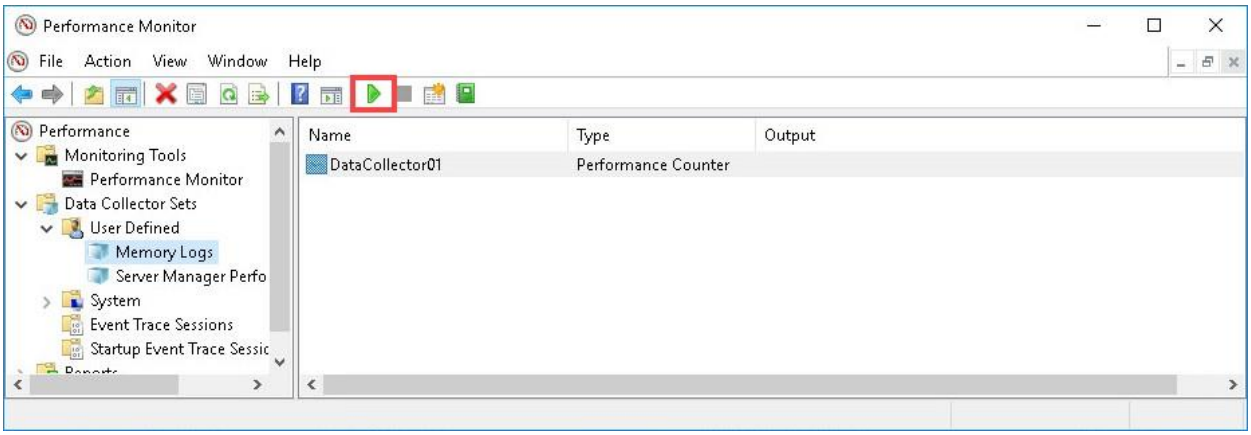


What is the full path name to the example file?

C:\ProgramFiles\Perfectlogs\WIN-8H4SOVG3LCL-20210906-000001\DataCollector01.csv

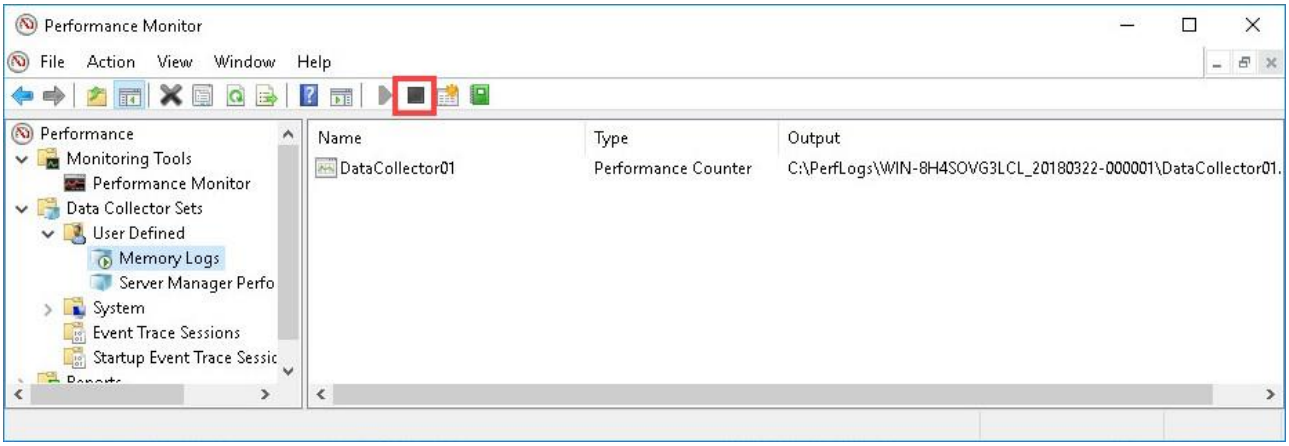
o. Click **OK**.

p. 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.



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

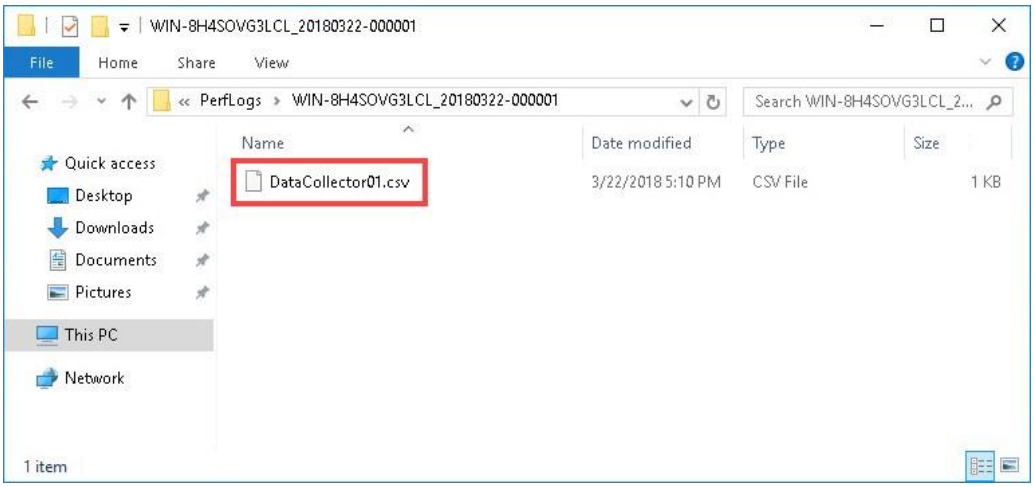
r. Click the **black square** icon to stop the data collection set.



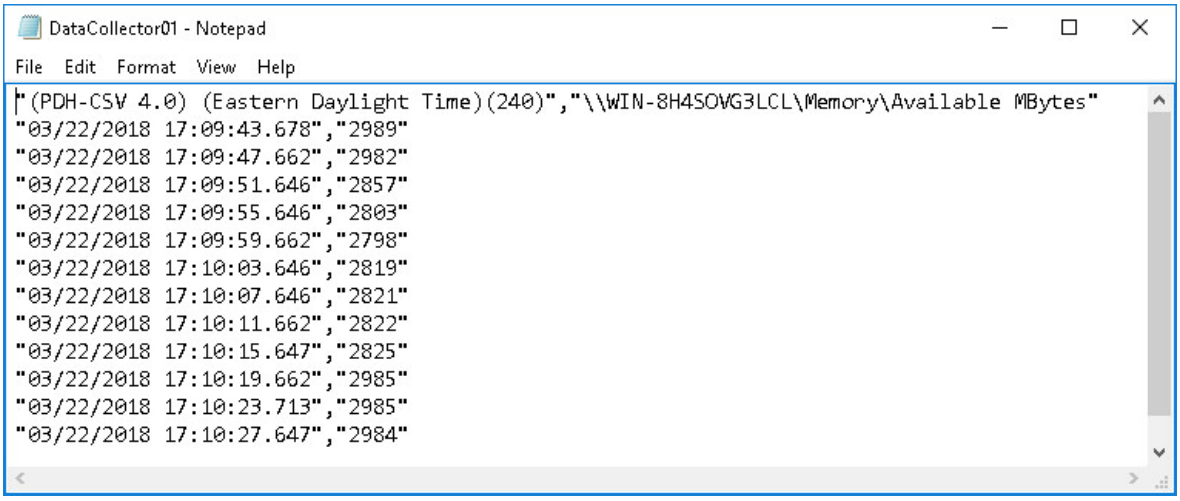
What change do you notice for the *Memory Logs* icon?

The arrow has been removed from the icon

s. Launch **File Explorer** and navigate to drive **C: > PerfLogs**. Locate the folder that starts with your PC's name followed by a timestamp, **WIN-8H4SOVG3LCL_20180322-000001** in the example. Double-click the folder to open it, and then double-click the **DataCollector01.csv** file. **If prompted, click Continue to permit access to the folder.**



Note: If the *How do you want to open this file?* message is displayed, select **Notepad** and click **OK**.

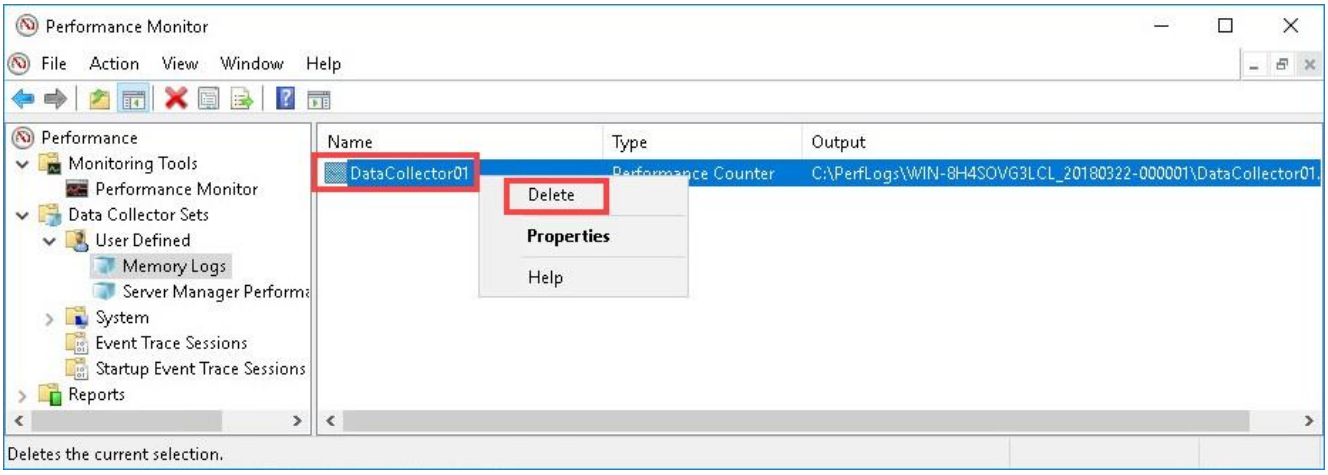


What does the column farthest to the right show?

Available in MegaBytes.

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

u. Select the **Performance Monitor** window. Right-click **Memory Logs** > **Delete**.



v. The **Performance Monitor** > **Confirm Delete** window opens. Click **Yes**.

w. Open drive **C: > PerfLogs** folder. Right-click on the folder that was created to hold the Memory log file, then click **Delete**.

x. If the *Delete Folder* window opens. Click **Yes**.

y. Close all open windows.