Networking Academy
CISCO

Lab - Monitor and Manage System Resources in Windows

Introduction

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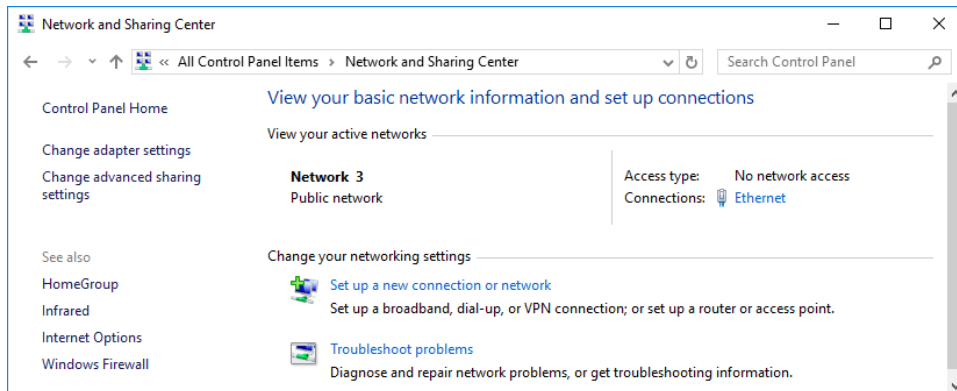
Recommended Equipment

- A Windows PC with Internet access

Part 1: Starting and Stopping the Routing and Remote Access service
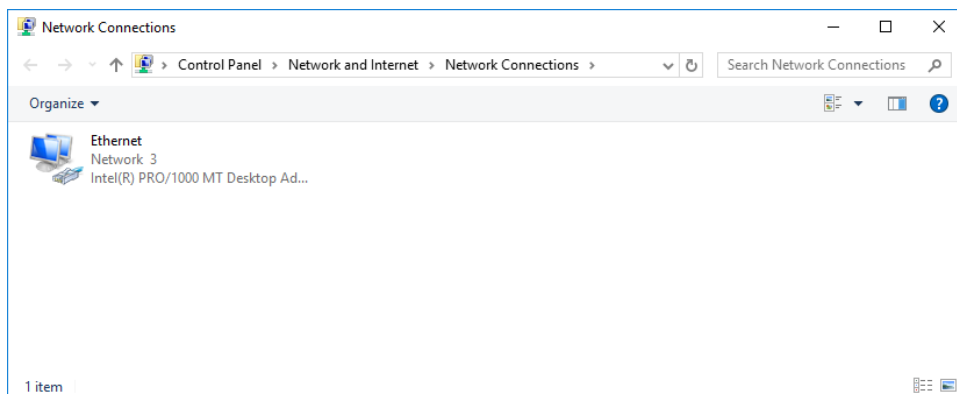
You will explore what happens when a service is stopped and then started. In this part, you will use routing and remote access service as the example service. This service allows the local device to become a router or a remote access server.

a. Click **Start** > 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.
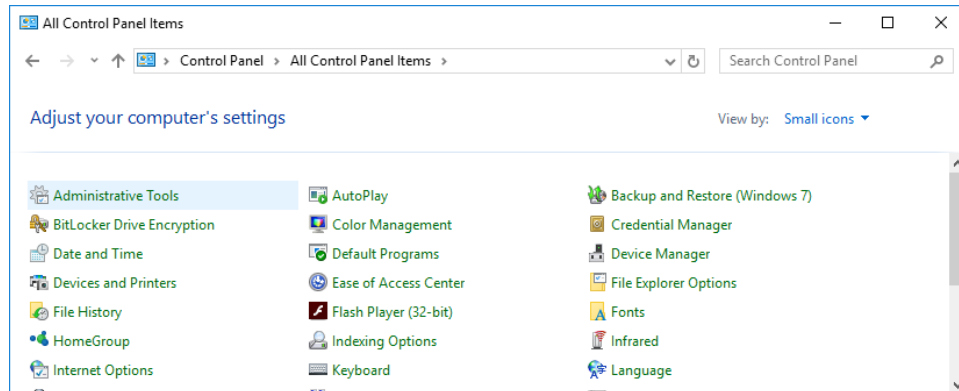

b. Click **Change adapter settings** in the left pane. Reduce the size of the **Network Connections** window and leave it open.
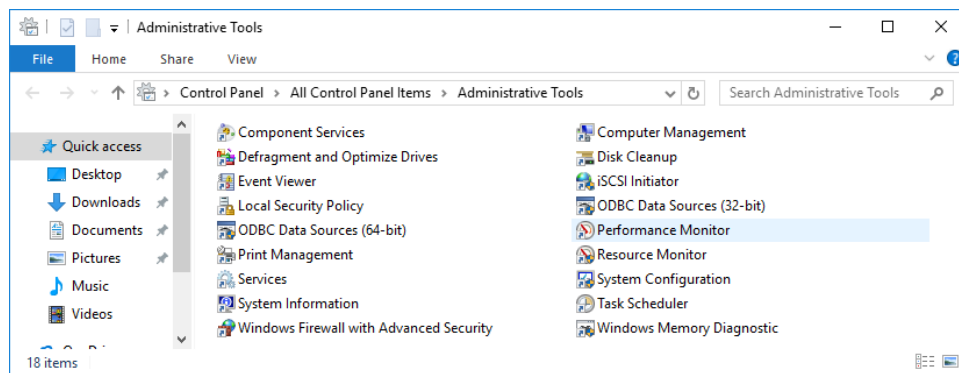
c. Navigate to the **Administrative Tools**. (Click **Start** > Search for and select **Control Panel** > Click **Administrative Tools**)
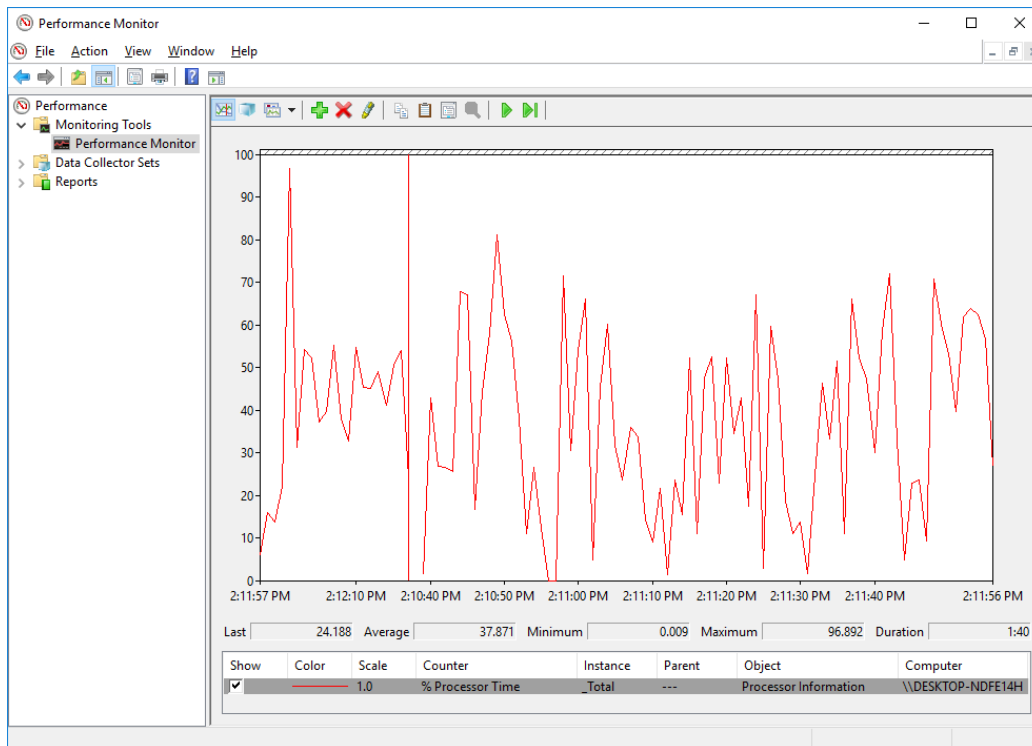

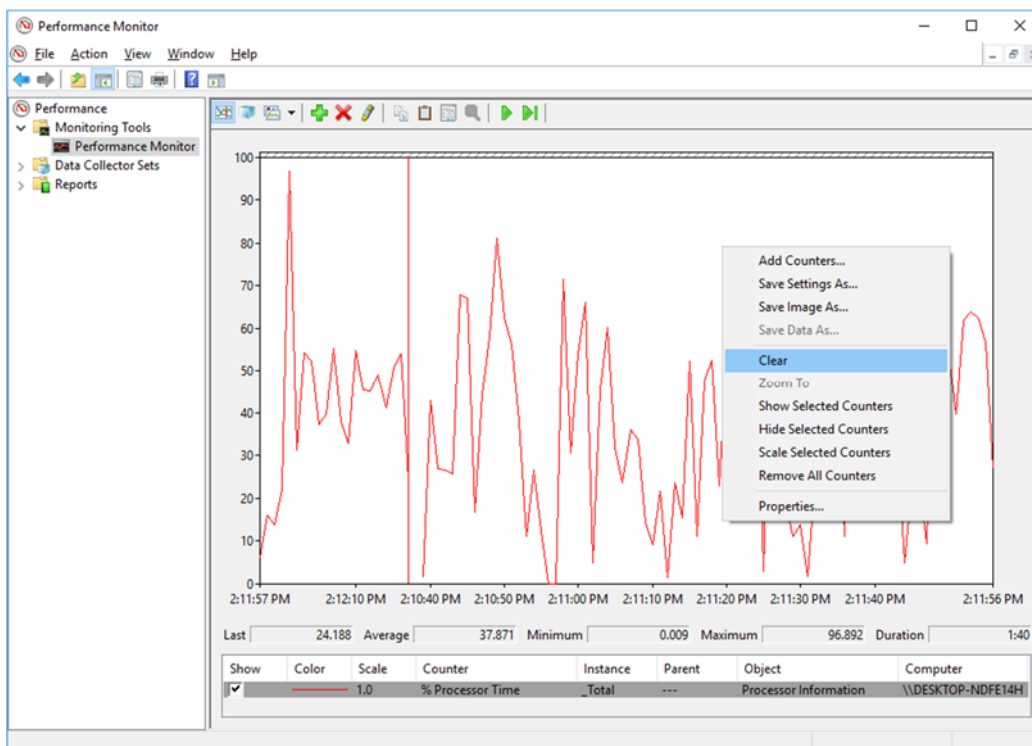d. The **Administrative Tools** window opens. Double-click the **Performance Monitor** icon.

e. 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.


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

g. Navigate to the **Administrative Tools** window and select **Services**.
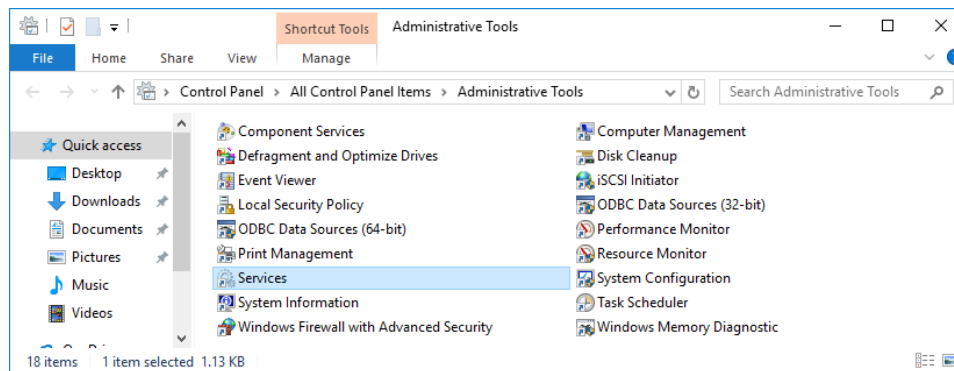
h. Expand the width of the **Services** window so you have a clear view of the content. Scroll down in the right pane until you see the service Routing and Remote Access. Double-click **Routing and Remote Access**.
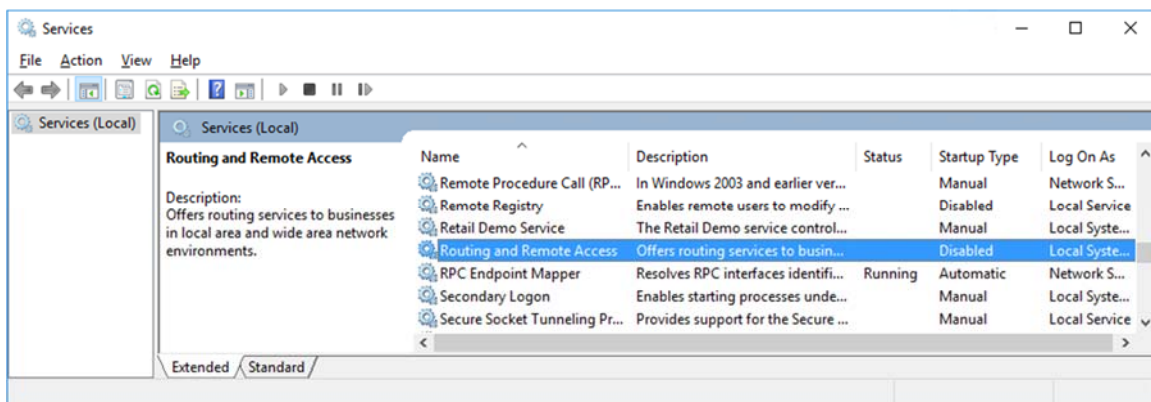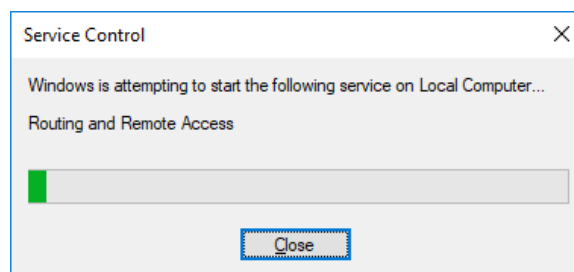

i. The **Routing and Remote Access Properties (Local Computer)** window opens. In the **Startup type** drop-down field, select **Manual** and then click **Apply**.

The Start button is now active. Do NOT click the Start button yet. Leave this window open.
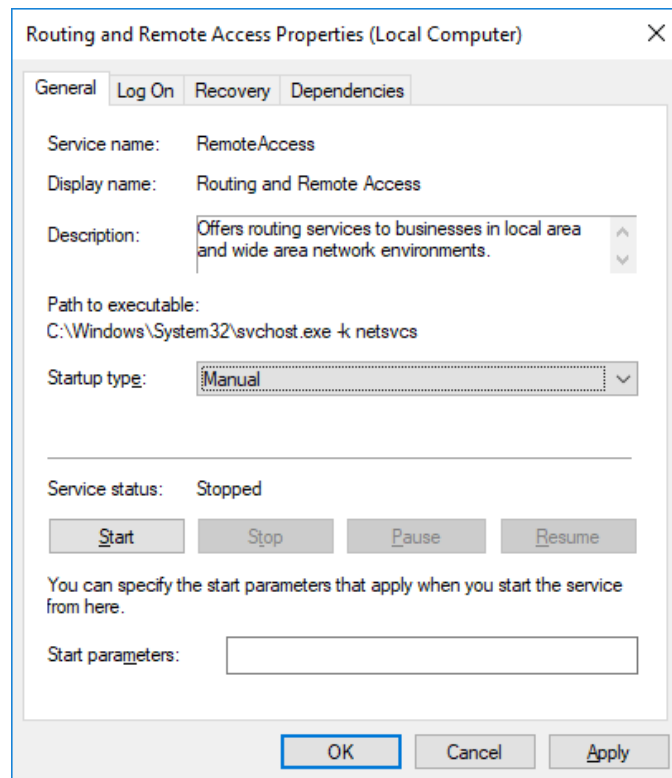
j. Navigate to **Performance Monitor** window. Click the **Unfreeze Display** icon to start the recording.

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

l.   The **Routing and Remote Access Properties (Local Computer)** window now shows the Stop and Pause button active. Leave this window open
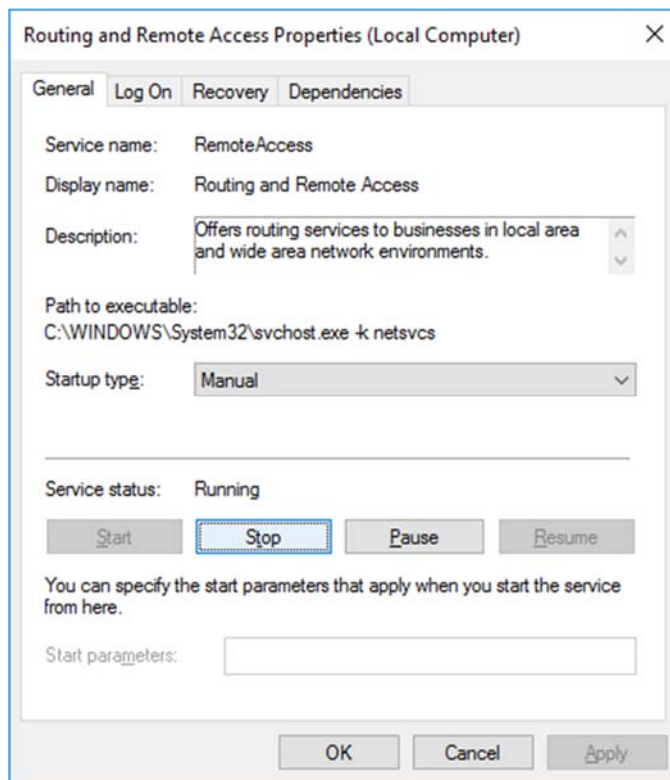
m.   Navigate to **Network Connections** window. Press the function key **F5** to refresh the content.

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

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n.   Navigate to **Routing and Remote Access Properties (Local Computer)** window and click **Stop**.

o.   Navigate to **Network Connections** window.

What changes appear in the right pane after stopping the Routing and Remote Access service?
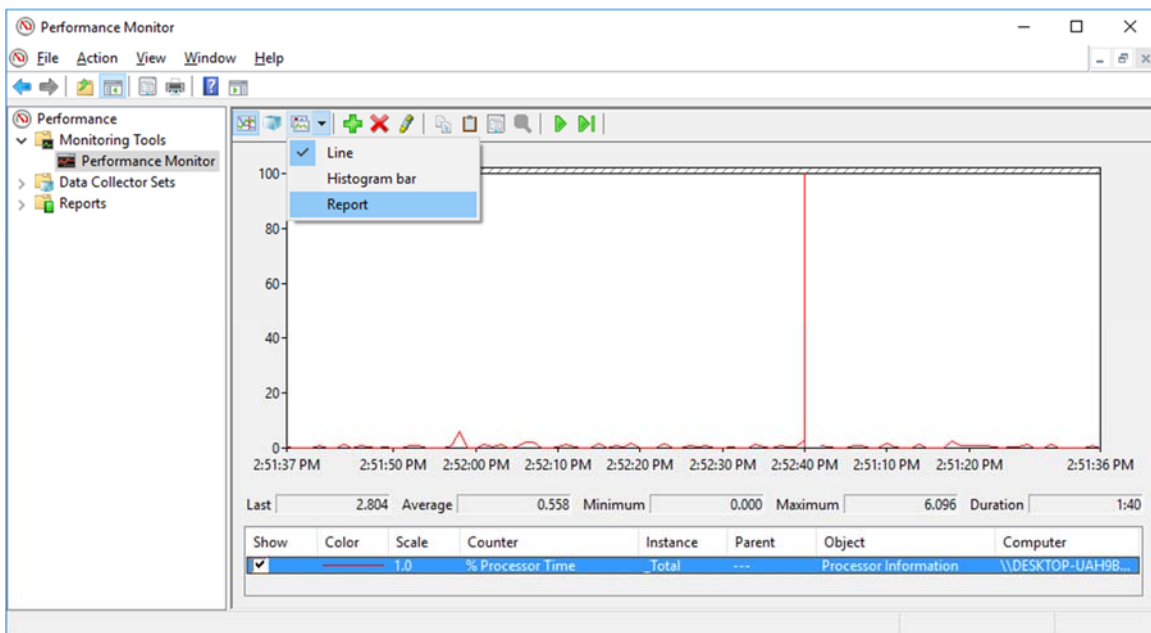
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p. Navigate to **Performance Monitor** window and click the **Freeze Display** icon to stop the recording.
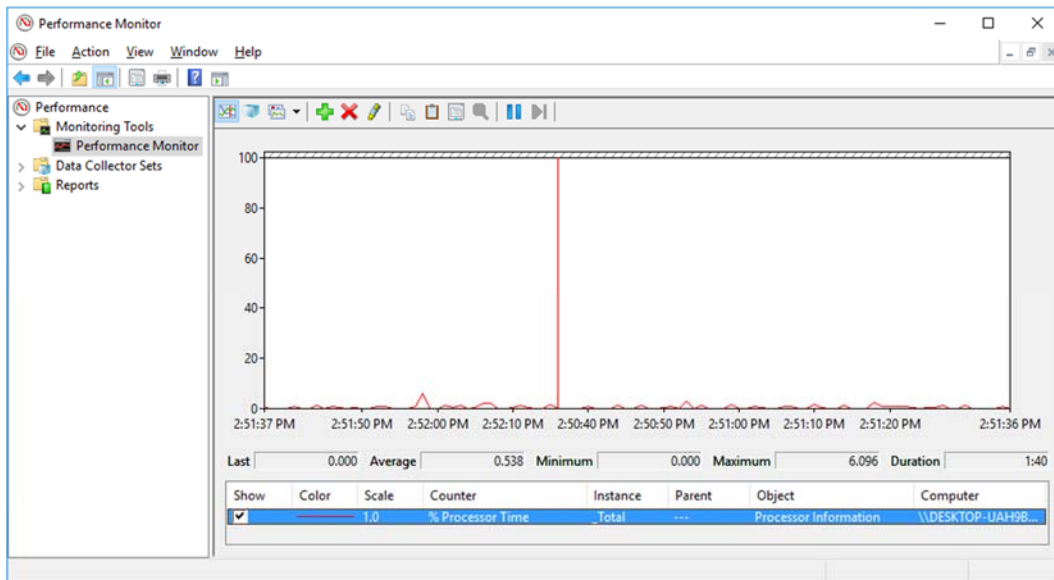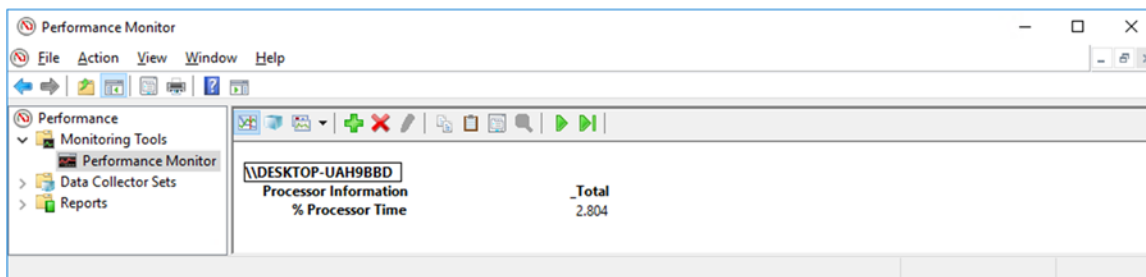

Which Counter is being recorded the most in the graph (hint: look at the graph color and Counter color)?

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q. Click the **Change graph type** drop-down menu, select **Report**.
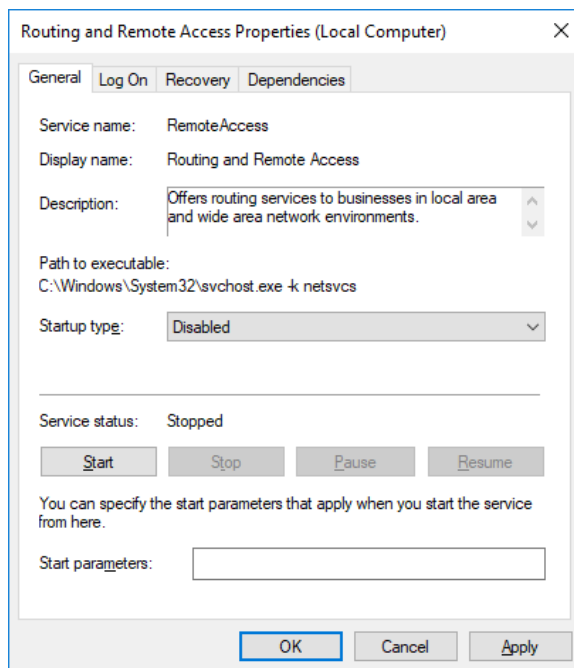
r.   The display changes to report view.

What values are displayed by the counter?

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

t.   Click the **Services** window.

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

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

v.   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.
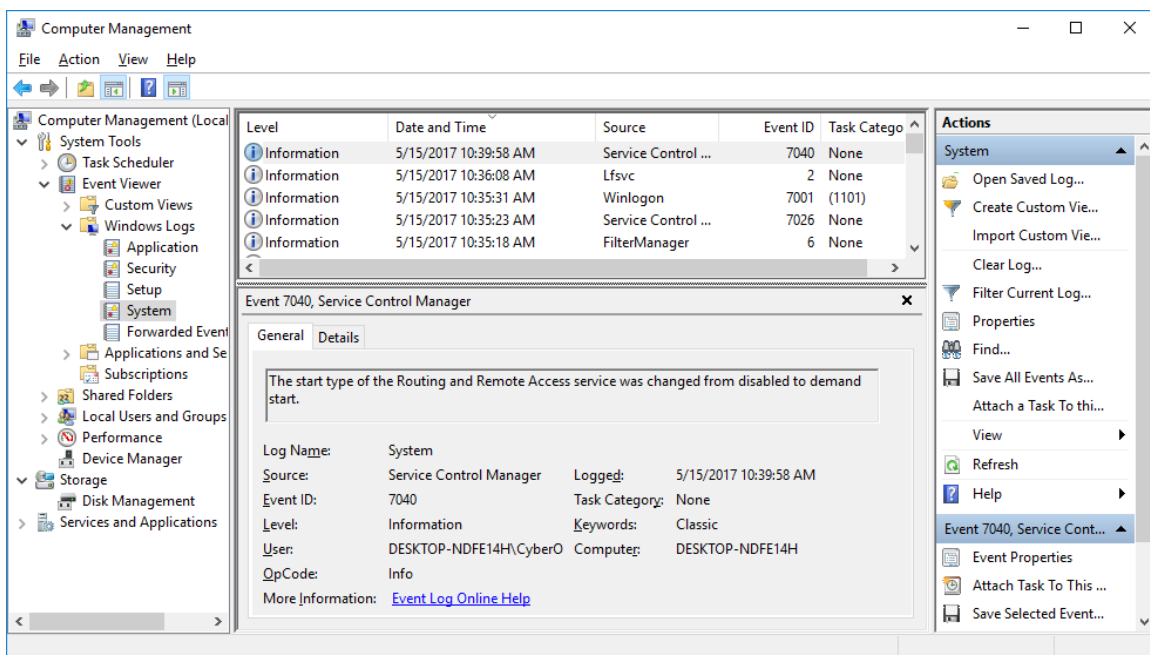
a.   Click **Control Panel** > **Administrative Tools**. Select **Computer Management**.

b.   The **Computer Management** window opens. Expand the three categories by clicking on the **arrow** next to **System Tools**.
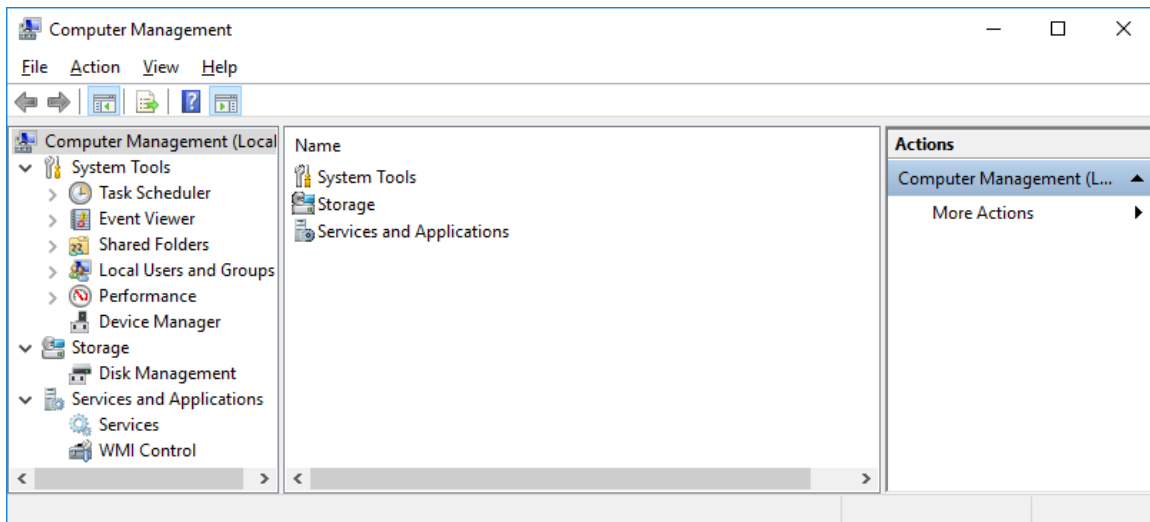
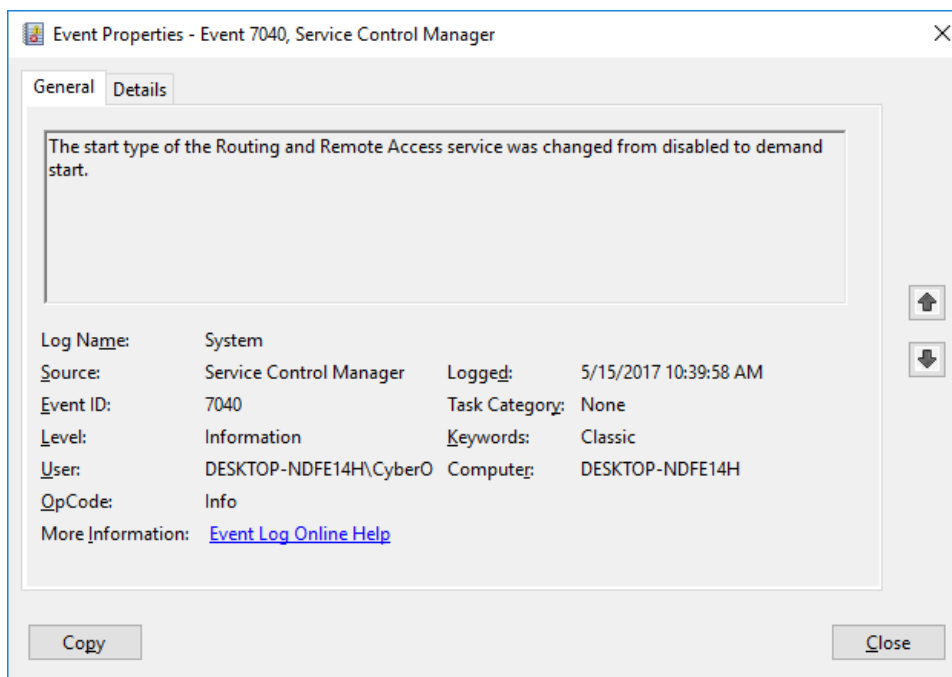c.   Click the arrow next to **Event Viewer** then click the arrow next to **Windows Logs**. Select **System**.

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.

Event Properties - Event 7040, Service Control Manager	×

General Details

The start type of the Routing and Remote Access service was changed from disabled to demand start.

Log Name:	System		
Source:	Service Control Manager	Logged:	5/15/2017 10:39:58 AM
Event ID:	7040	Task Category:	None
Level:	Information	Keywords:	Classic
User:	DESKTOP-NDFE14H\CyberO	Computer:	DESKTOP-NDFE14H
OpCode:	Info		
More Information:	Event Log Online Help		

Copy   Close

What are the descriptions for each of the four events?

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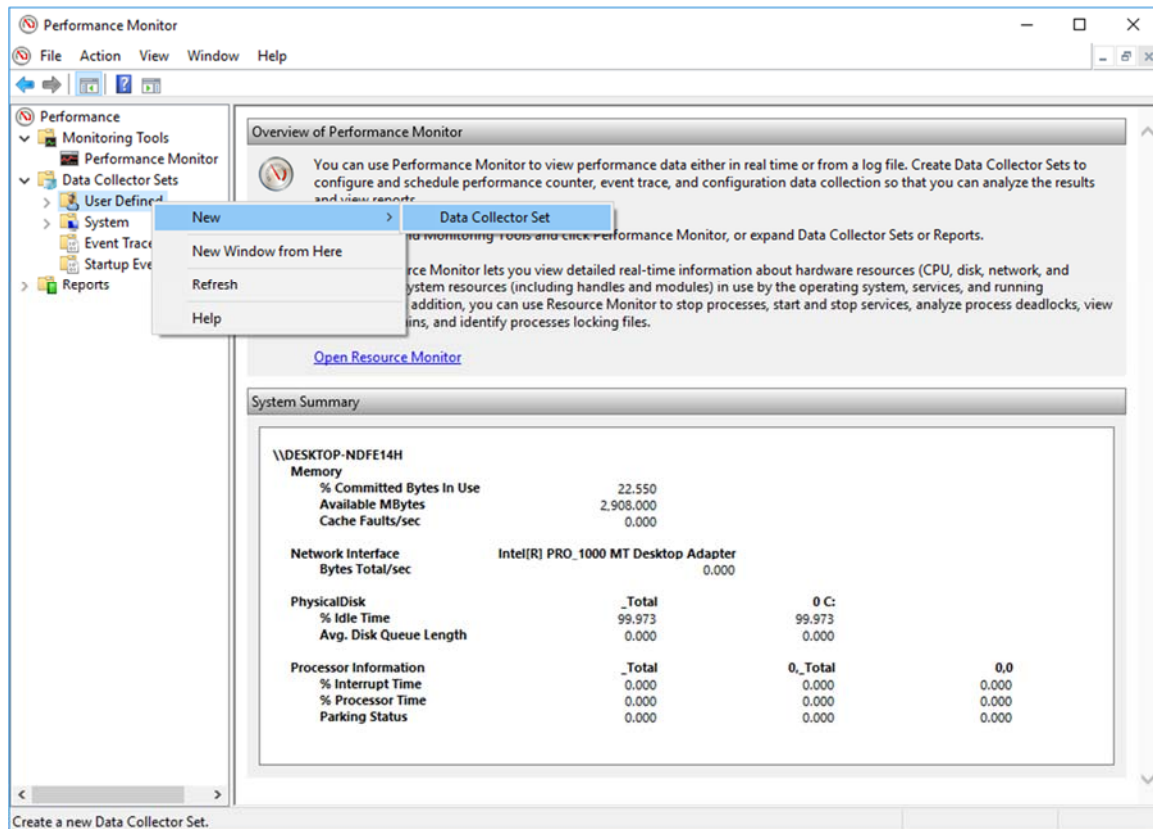
b. The **Create new Data Collector Set** window opens. In the Name field, type **Memory Logs**. Select the **Create manually (Advanced)** radio button, and click **Next**.

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**.
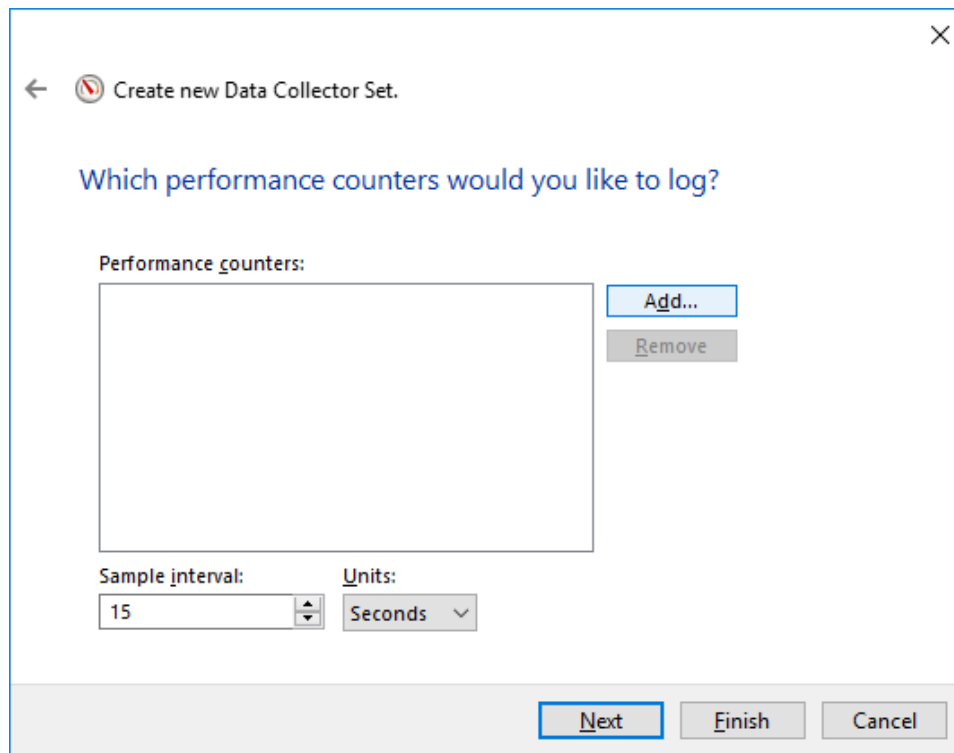
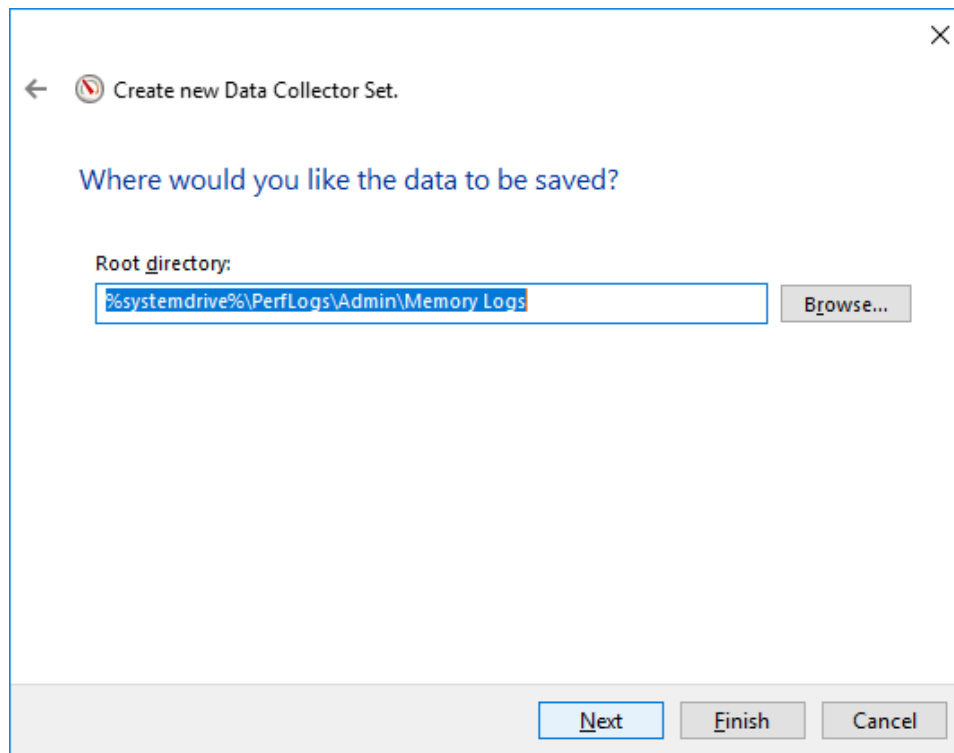e. From the list of available counters, locate and expand **Memory**. Select **Available MBytes** and click **Add>>**.
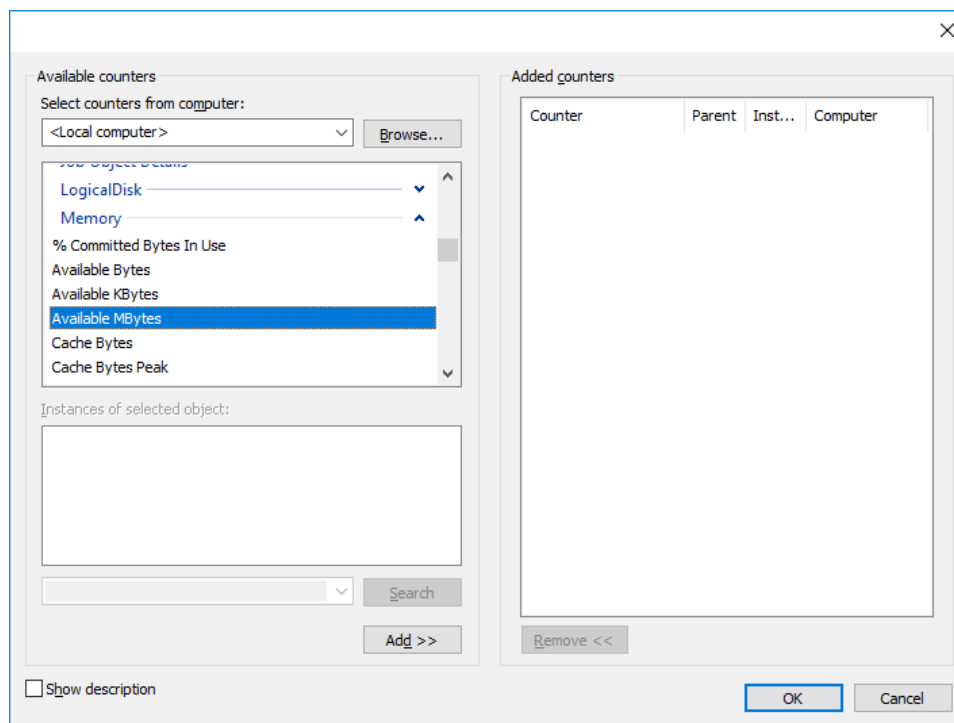
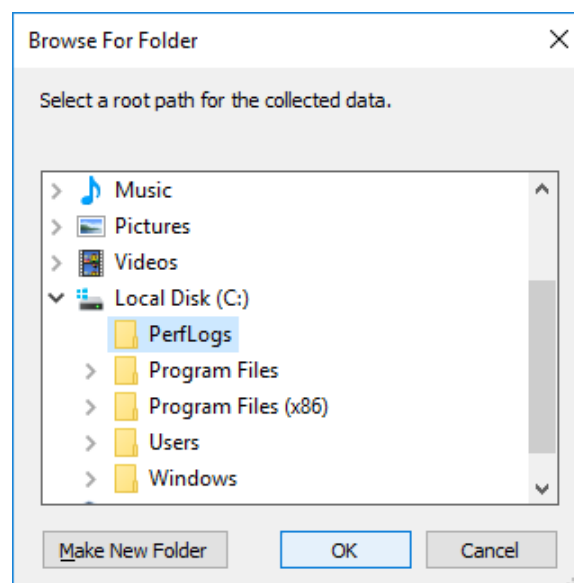f. You should see the **Available MBytes** counter added in the right pane. Click **OK**.
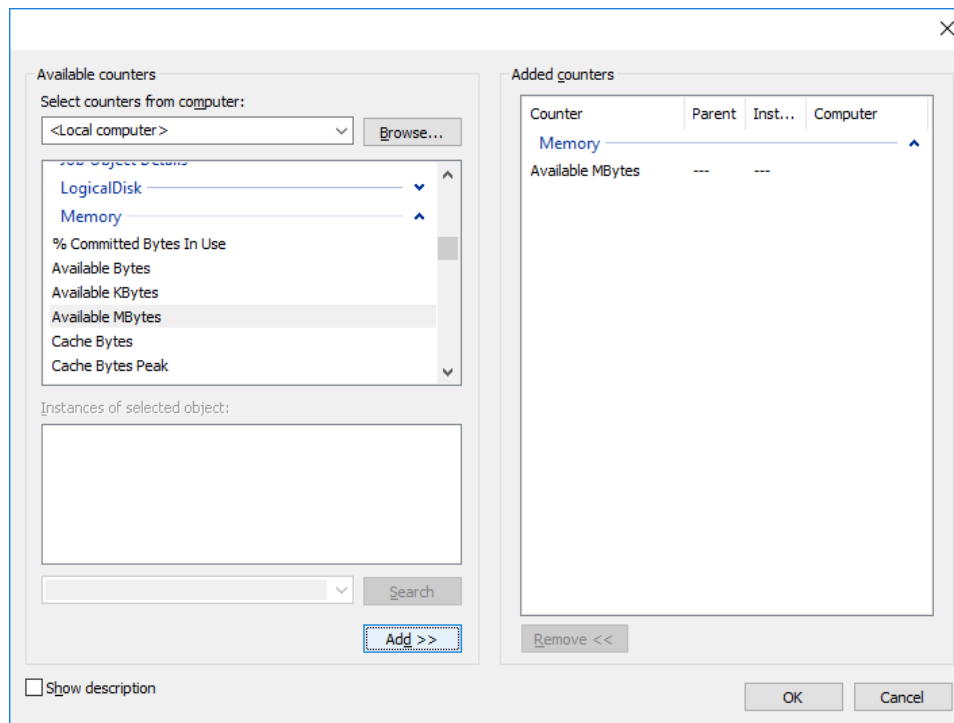
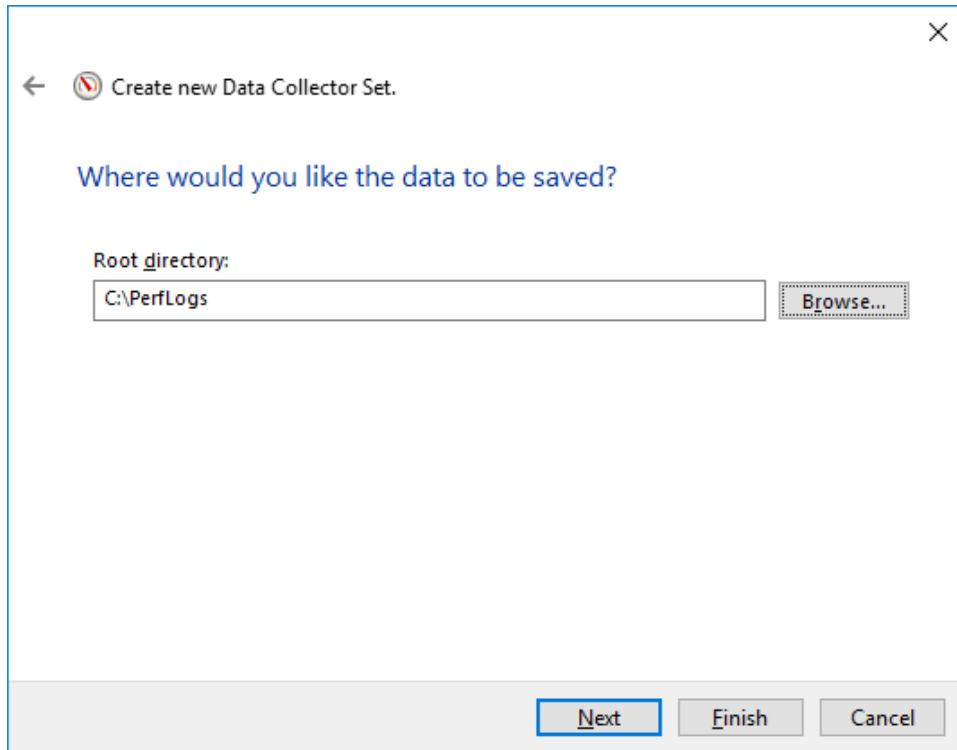g. Set the Sample interval field to **4** seconds. Click **Next**.
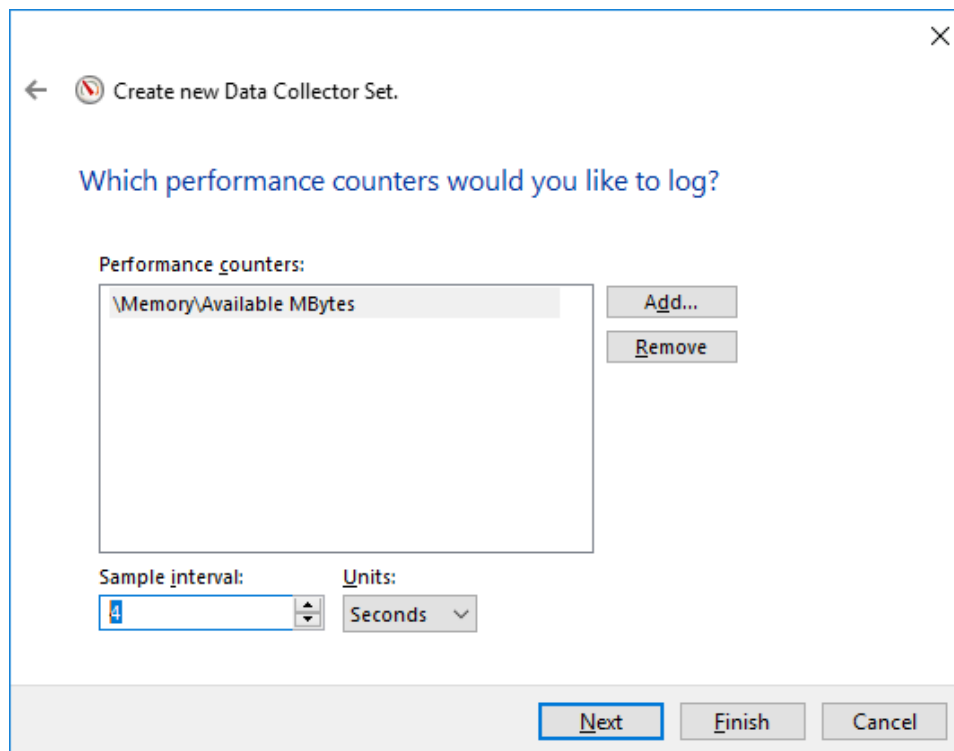
h. In the **Where would you like the data to be saved?** screen, click **Browse**.

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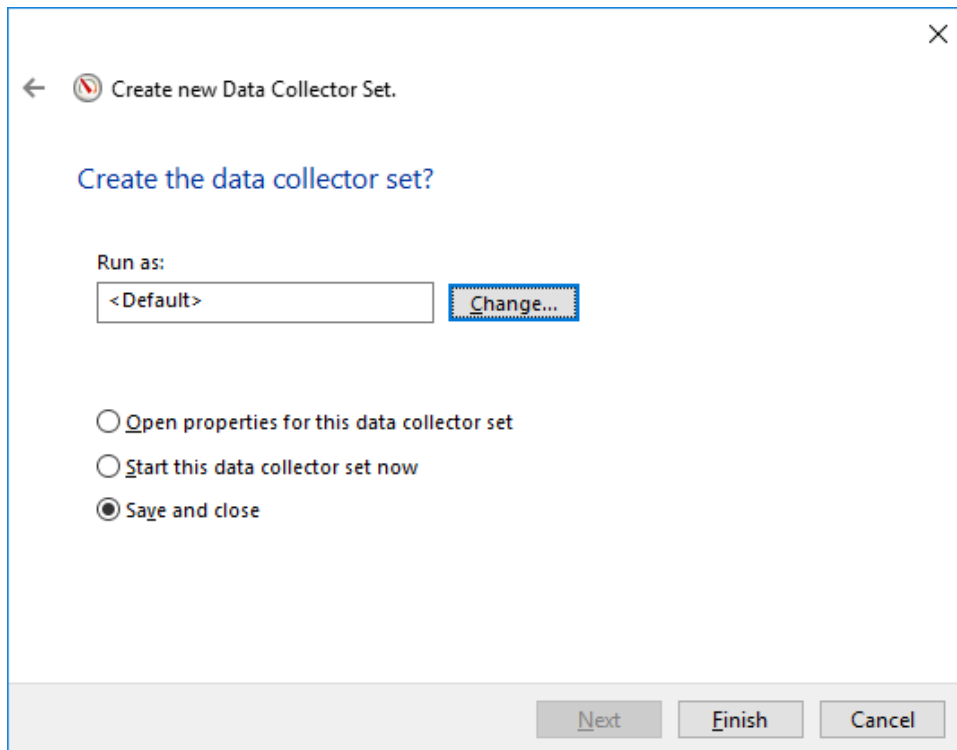
j.   The **Where would you like the data to be saved?** window opens with the directory information that you selected in the previous step. Click **Next**.

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

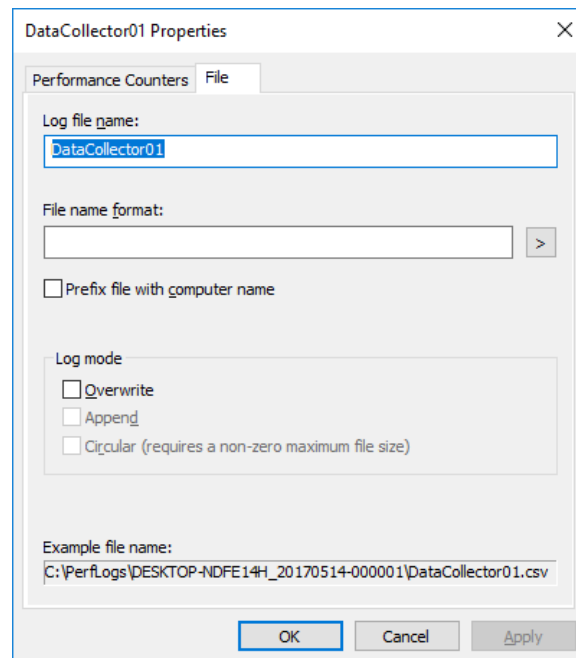l.   Expand **User Defined**, and select **Memory Logs.** Right-click **Data Collector01**and select **Properties**.
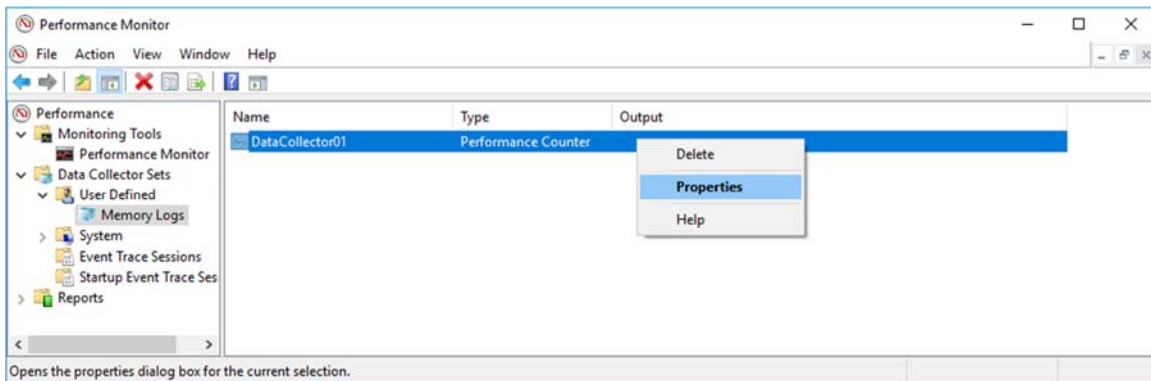
m. The **DataCollector01 Properties** window opens. Change the **Log format:** field to **Comma Separated**.
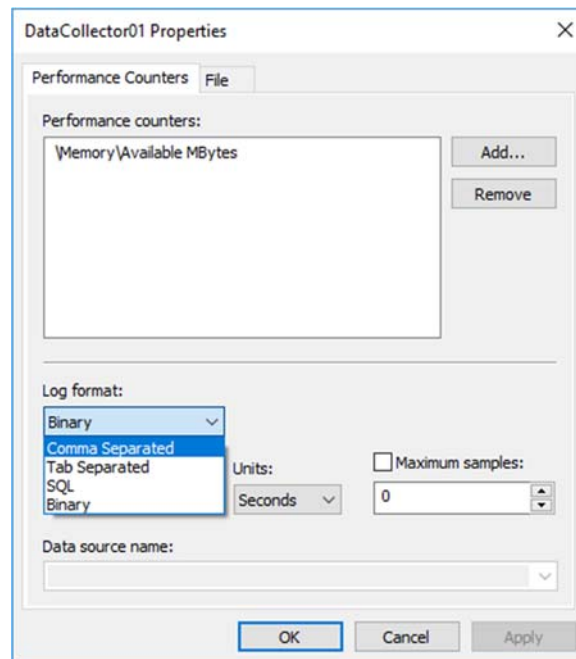
n. Click the **File** tab.

What is the full path name to the example file?

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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.
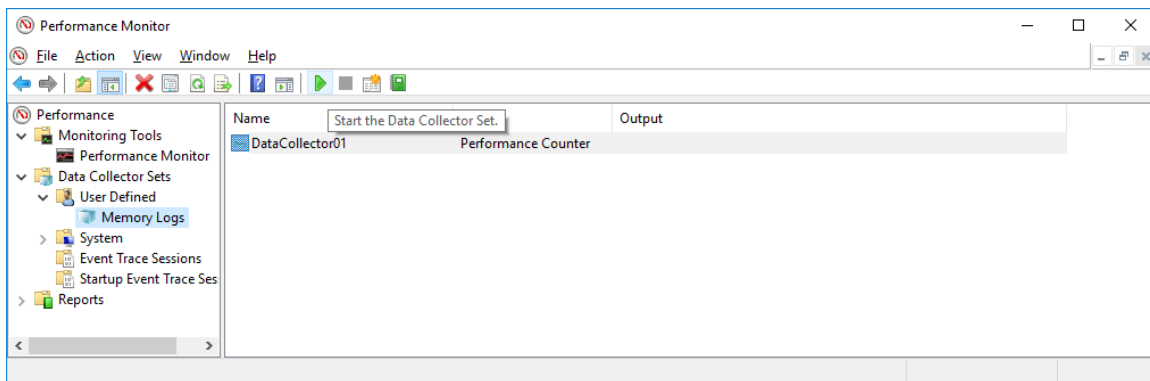

q. To force the computer to use some of the available memory, open and close a browser.

r. Click the **black square** icon to stop the data collection set.
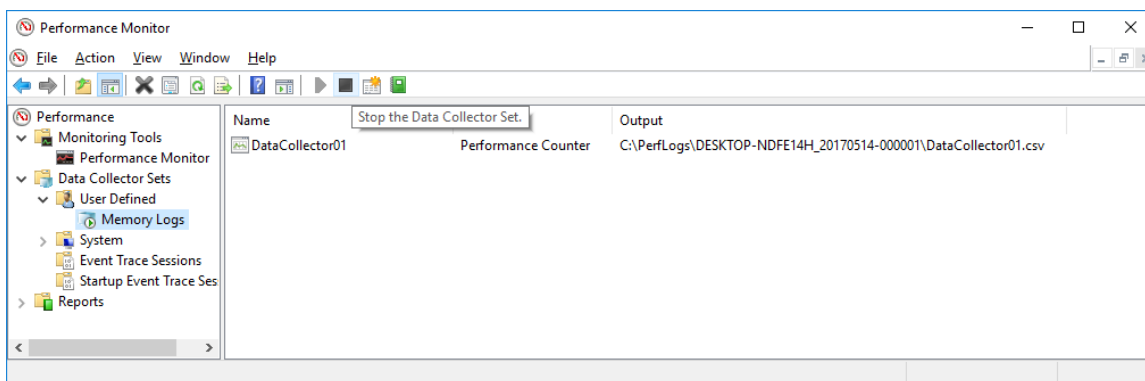
What change do you notice for the Memory Logs icon?

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s. Click **Start > Computer**, and click **drive C: > PerfLogs**. Locate the folder that starts with your PC's name followed by a timestamp, **DESKTOP-NDFE14H_20170514-000001** 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.**
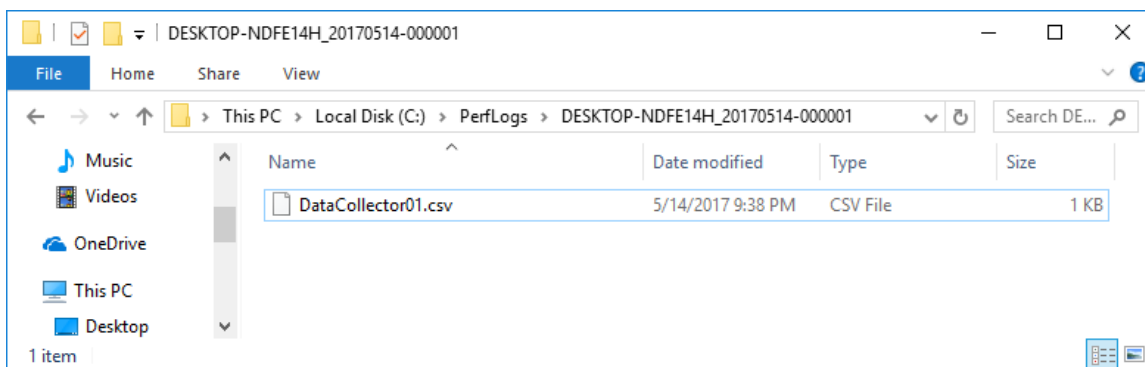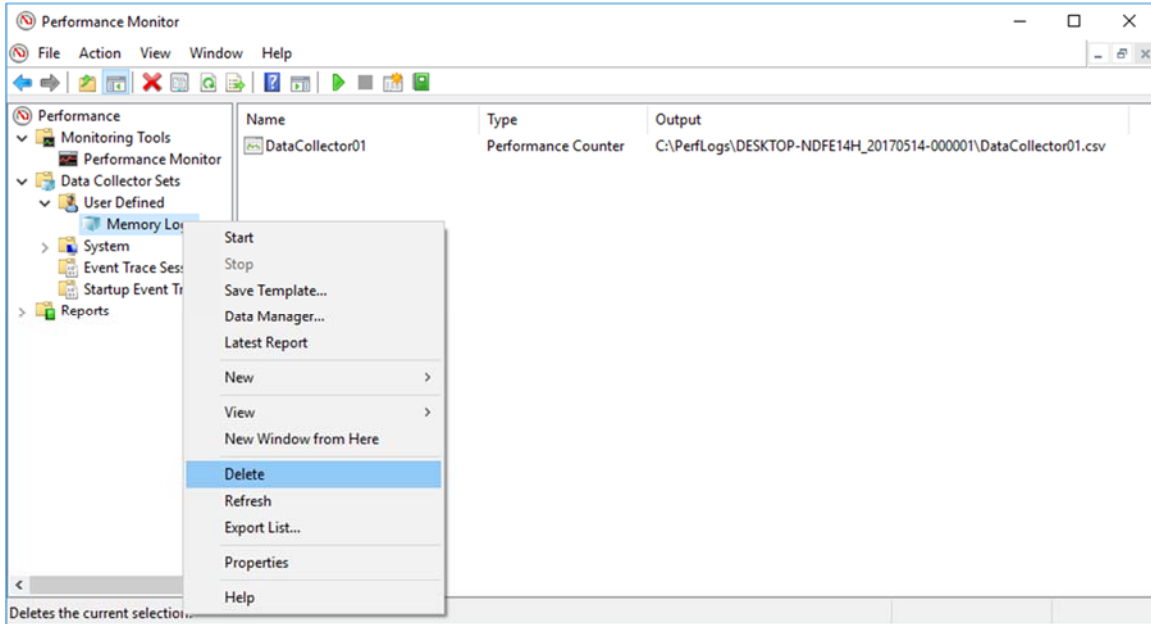

Note: If the **Windows cannot open the file**: message is displayed, select the radio button **Select a program from a list of installed programs** > **OK** > **Notepad** > **OK**.
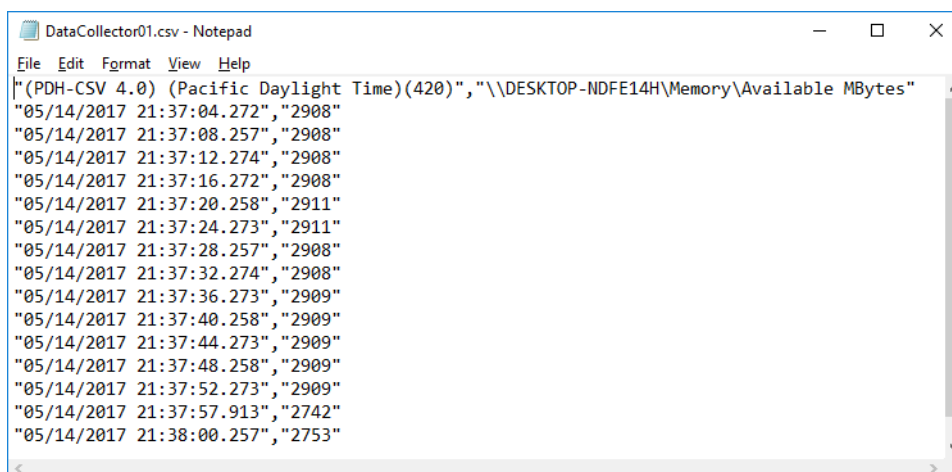
What does the column farthest to the right show?

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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.   The Delete Folder window opens. Click **Yes**.

y.   Close all open windows.