

# Lab - Monitor and Manage System Resources in Windows

## Objectives

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**

**Part 2: Working in the Computer Management Utility**

**Part 3: Configuring Administrative Tools**

## Recommended Resource

- A Windows PC with internet access

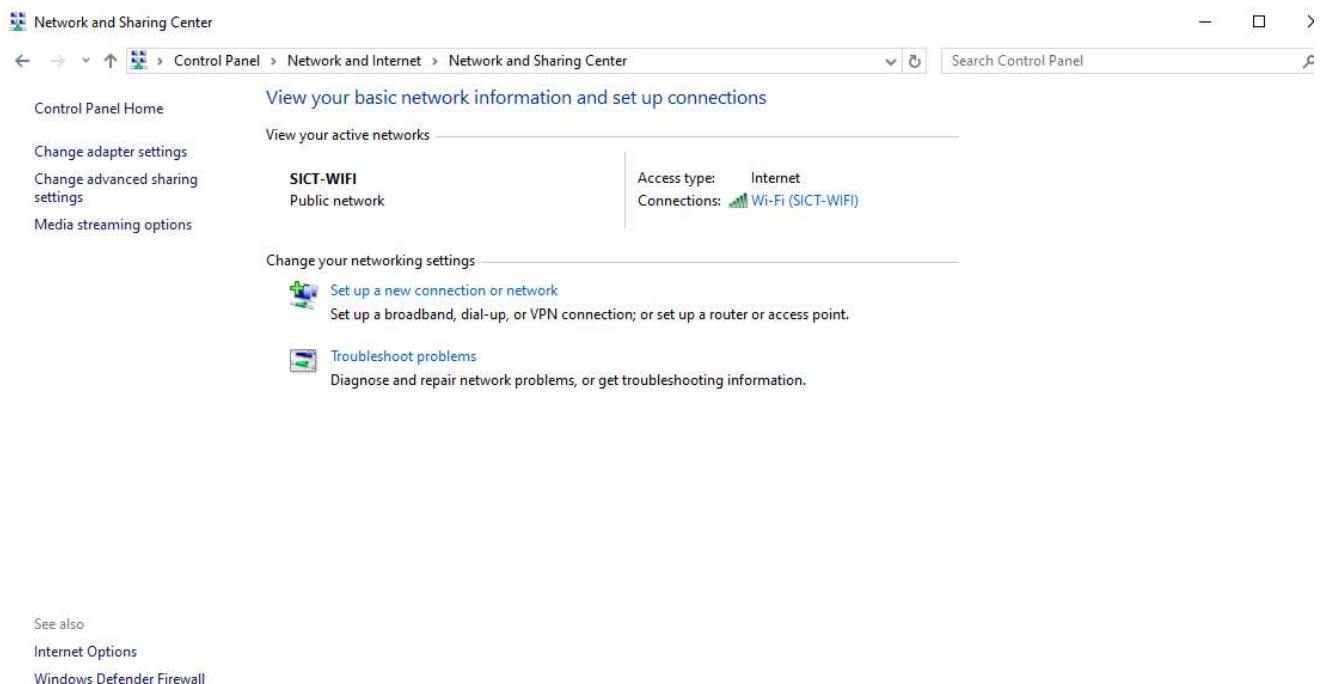
## Instructions

### 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.

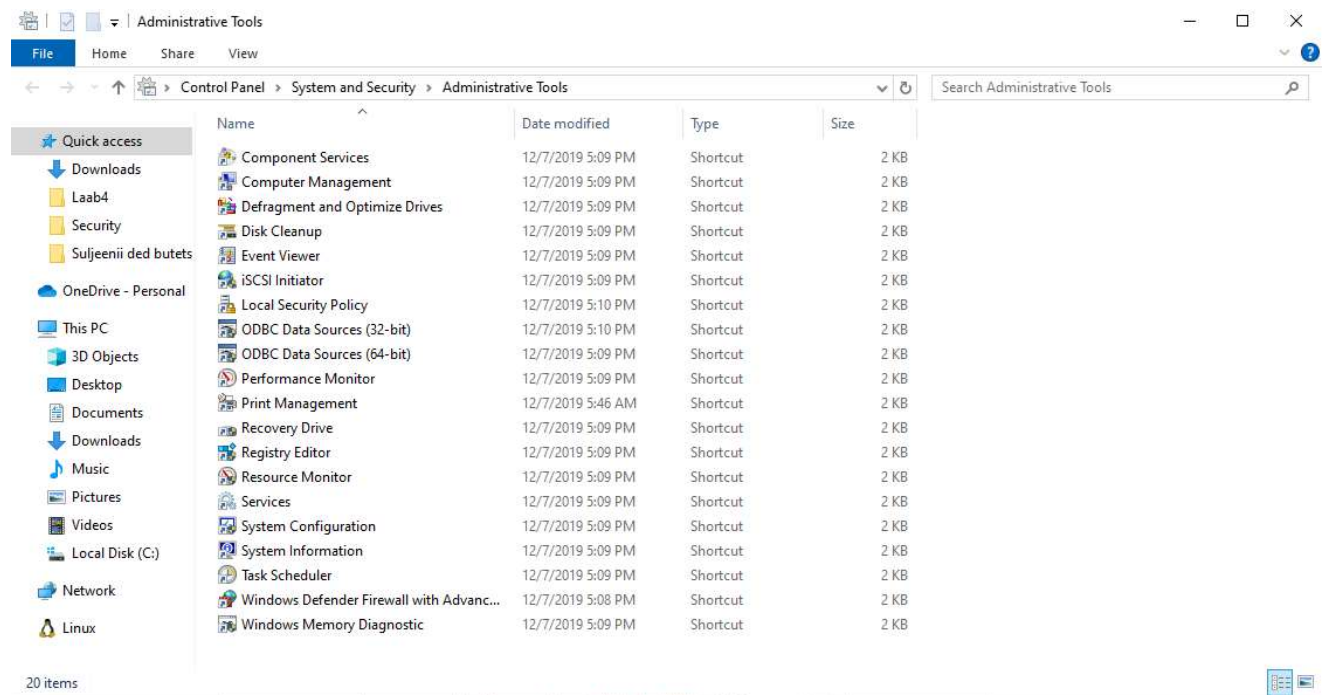
- a. Navigate to the **Control Panel** > Click **Network and Sharing Center**.

**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**. (Navigate to the **Control Panel** > Click **Administrative Tools**)

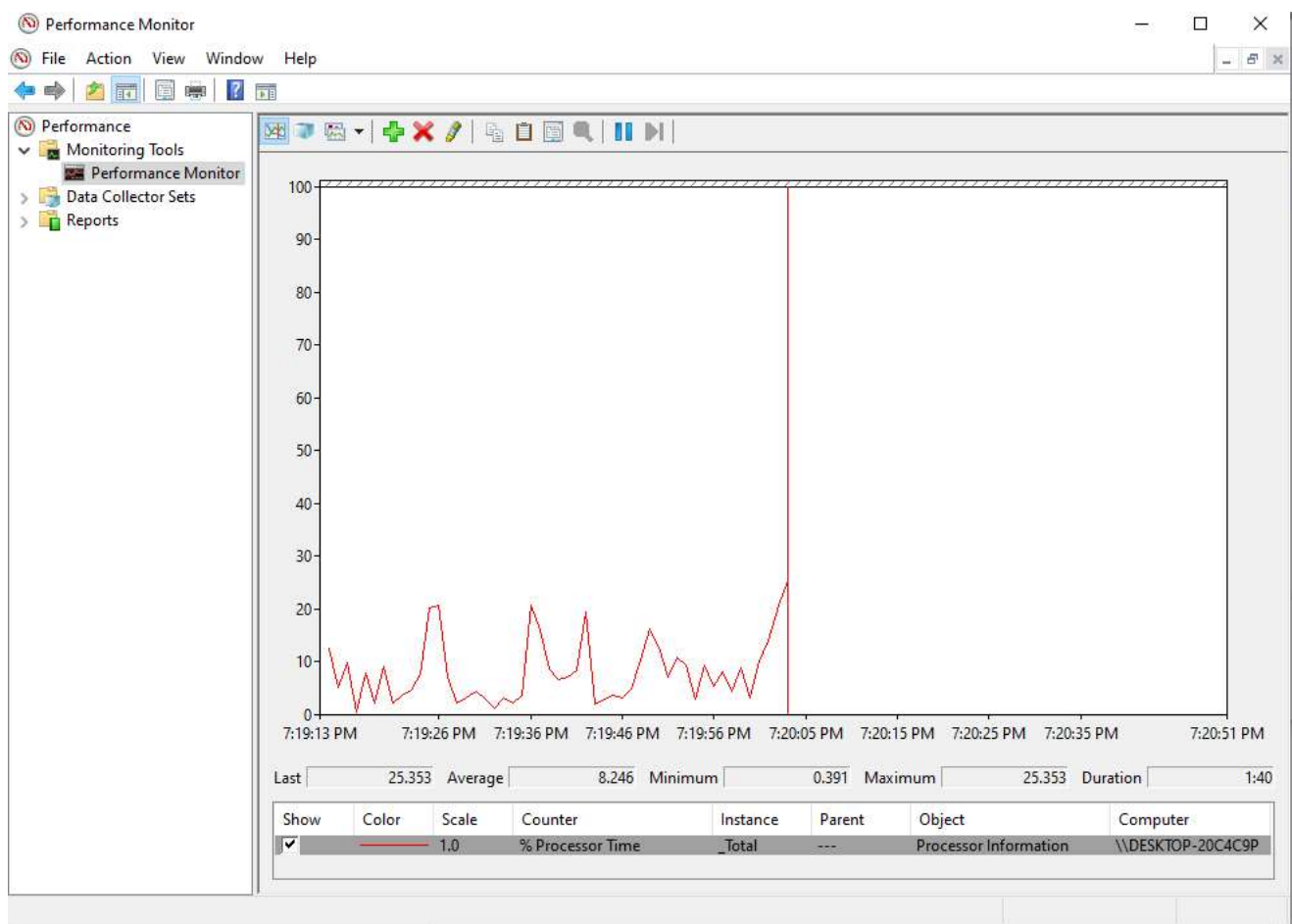
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- d. In the **Administrative Tools** window, double-click the **Performance Monitor** icon.
- e. In the **Performance Monitor** window, make sure **Performance Monitor** under Monitoring Tool heading in the left pane is highlighted. Click the **Freeze Display** icon (pause button) to stop the recording.

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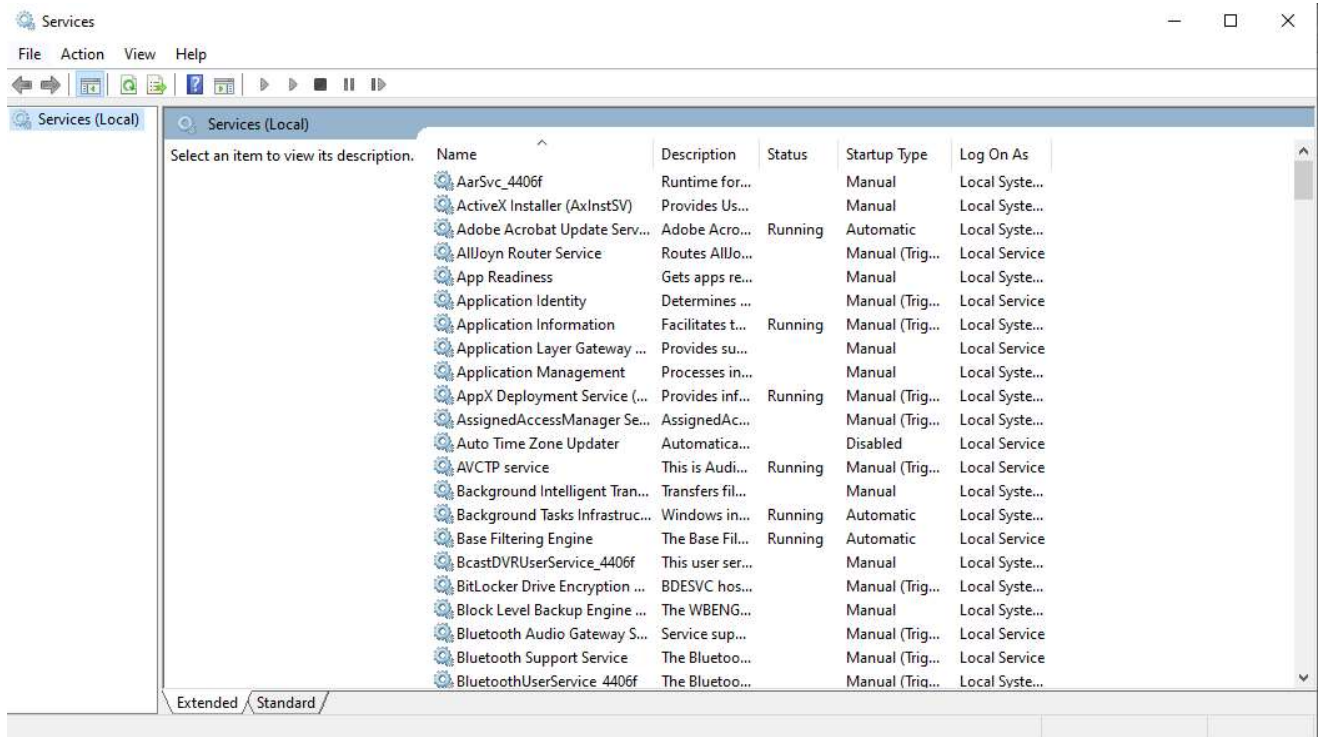
- f. Right-click the graph and select **Clear** to clear the graph. Leave this window open.



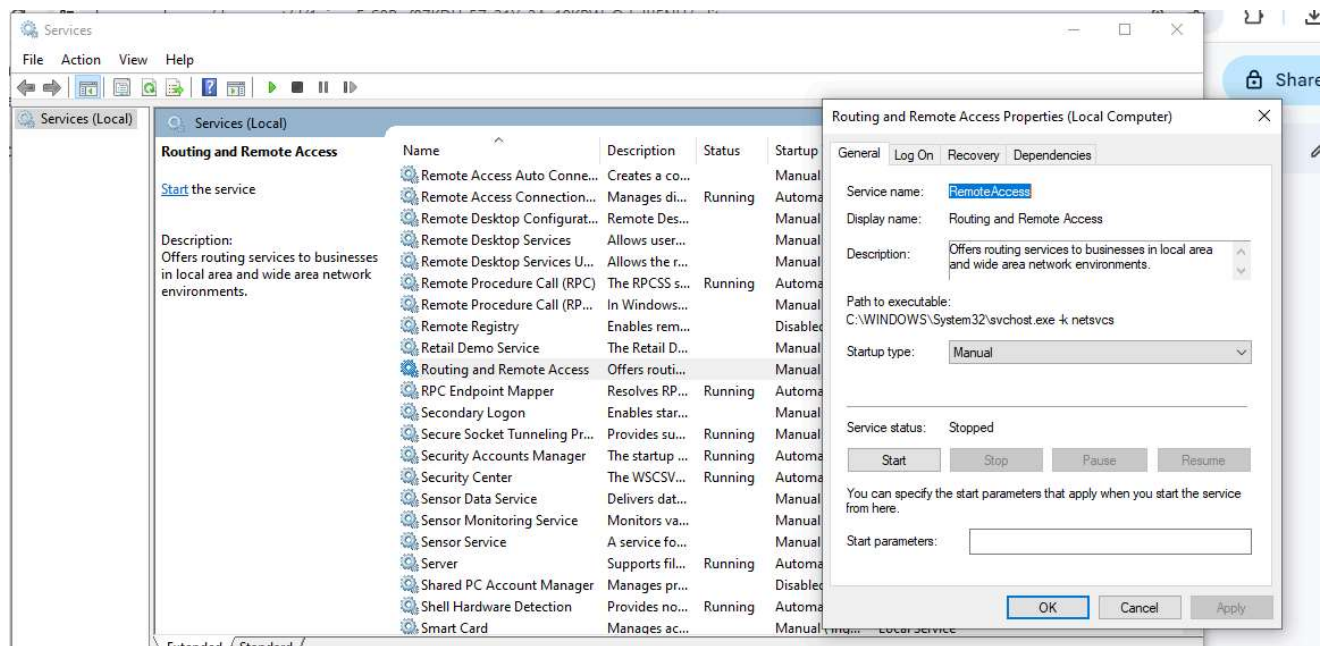
- g. Navigate to the **Administrative Tools** and select **Services**.

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- 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**.



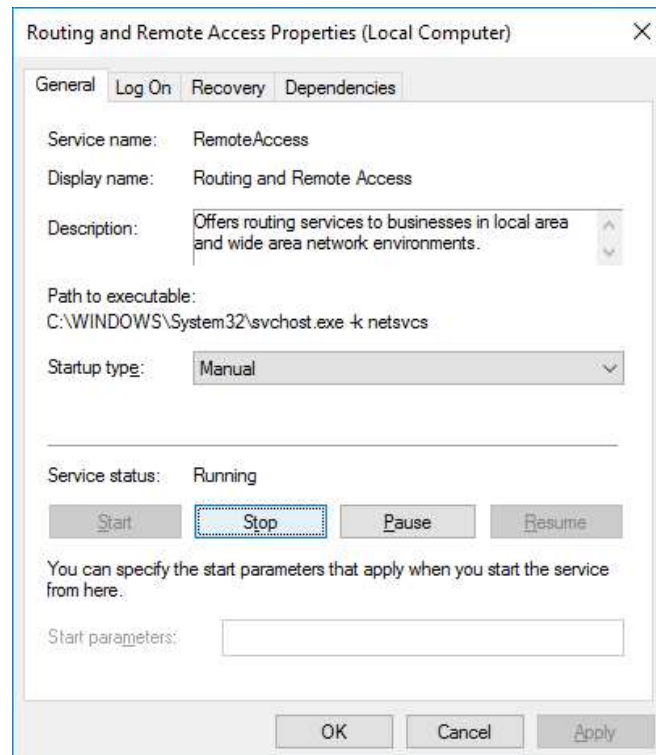
- i. In the **Routing and Remote Access Properties (Local Computer)** window opens. In the **Startup type** drop-down field, select **Manual** and then click **Apply**.



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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?

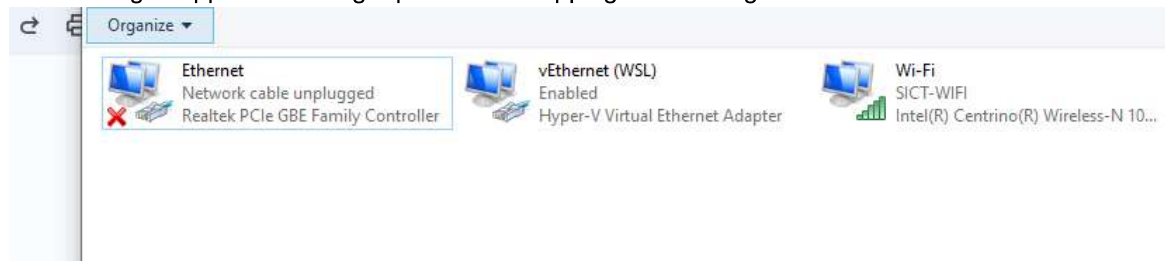


**Ийм холболт гарав.**

- n. Navigate to **Routing and Remote Access Properties (Local Computer)** window and click **Stop**. **Note:** If **Stop** is greyed out, click **Apply** and change the service status.
- o. Navigate to **Network Connections** window.

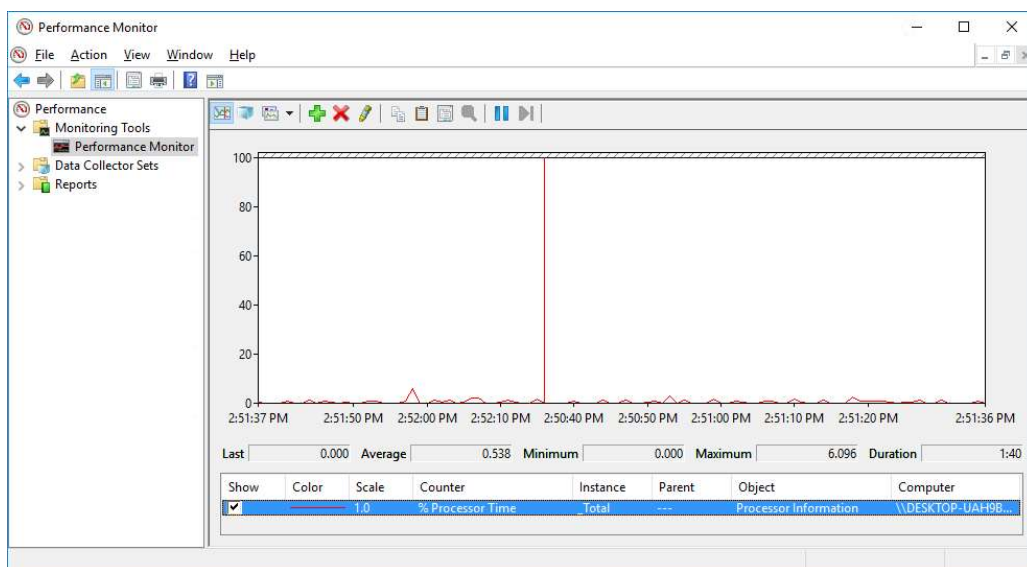
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What changes appear in the right pane after stopping the Routing and Remote Access service?



Дээр байсан холболт алга болов.

- 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)?

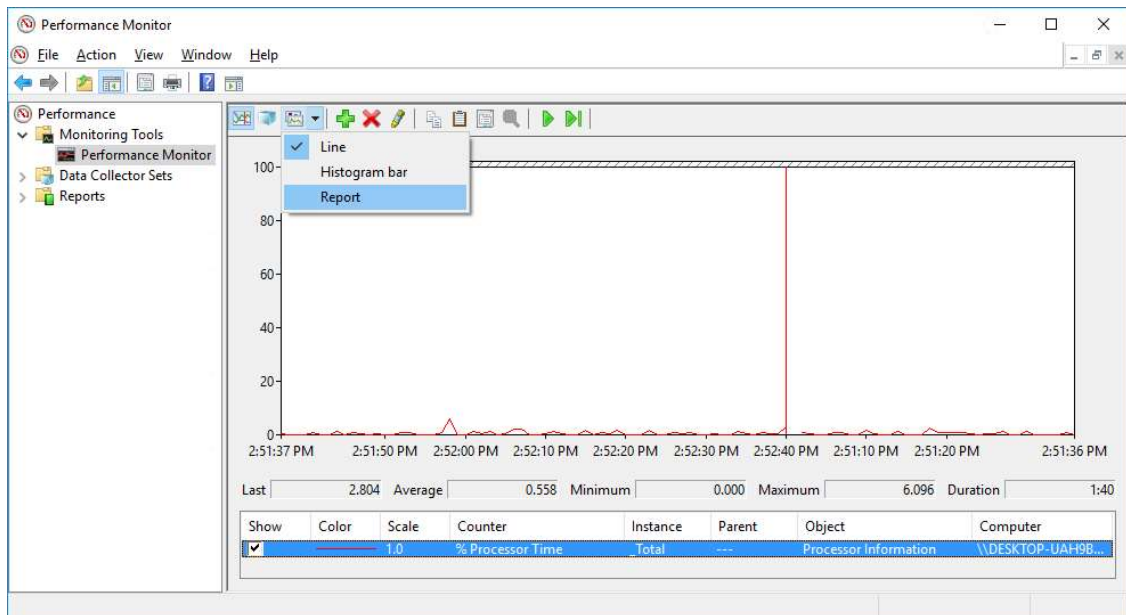
Counter	Instance	Parent	Object	Computer
% Processor Time	_Total	---	Processor Information	\\DESKTOP-20C4C9P

Энэ их бичигдэж байна.

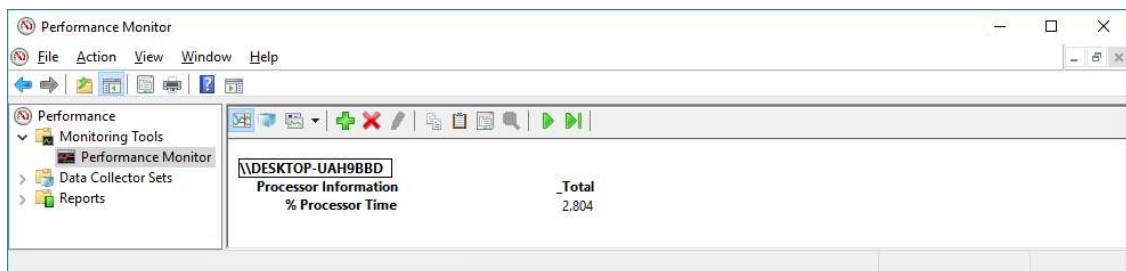
- q. Click the **Change graph type** drop-down menu, select **Report**.



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- r. The display changes to report view.

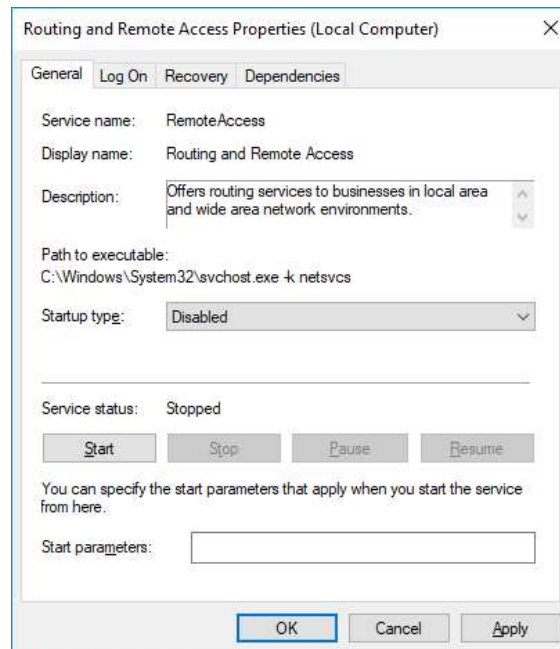


What values are displayed by the counter?

Processor Information	_Total
% Processor Time	2.804

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

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- t. Click the **Services** window.

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

Name	Description	Status	Startup Type	Log On As
Remote Procedure Call (RPC)	In Windows...		Manual	Network S...
Remote Registry	Enables rem...		Disabled	Local Service
Retail Demo Service	The Retail D...		Manual	Local Syste...
<b>Routing and Remote Access</b>	<b>Offers routi...</b>		<b>Manual</b>	<b>Local Syste...</b>
RDP Endpoint Mapper	Resolver RD...	Running	Automatic	Network S...

**Status** нь хоосон, **Startup Type** нь **Manual** байна.

- u. Click the **Performance Monitor** window. Click the **Unfreeze Display** icon to start the recording.
- v. Close all open windows you opened during Step 1 of this lab.

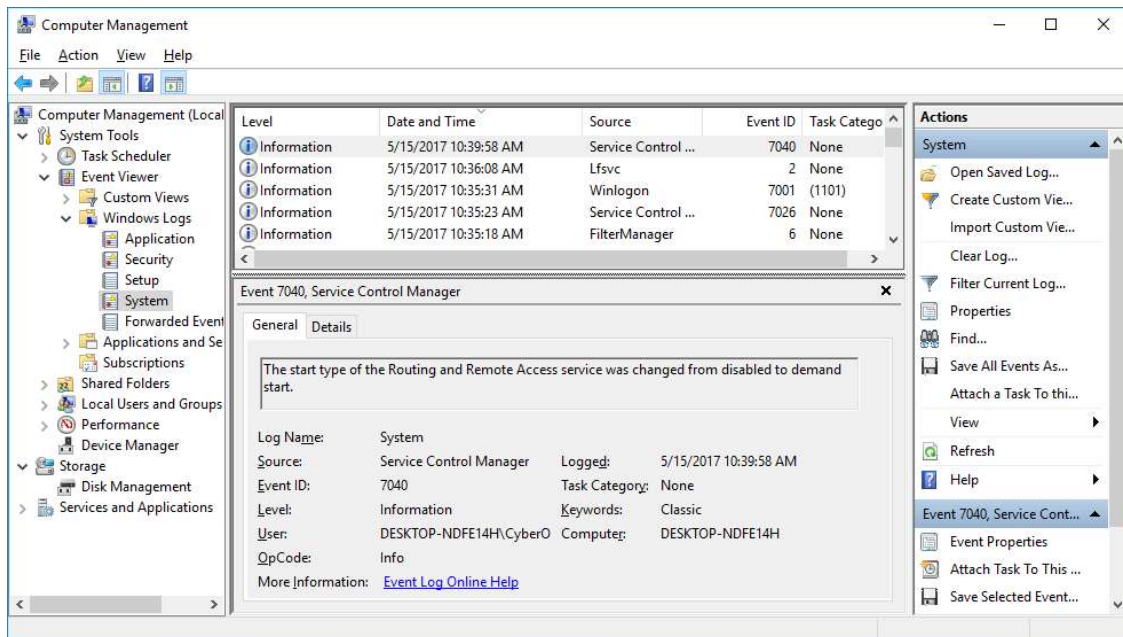
## Part 2: Working in the Computer Management Utility

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.

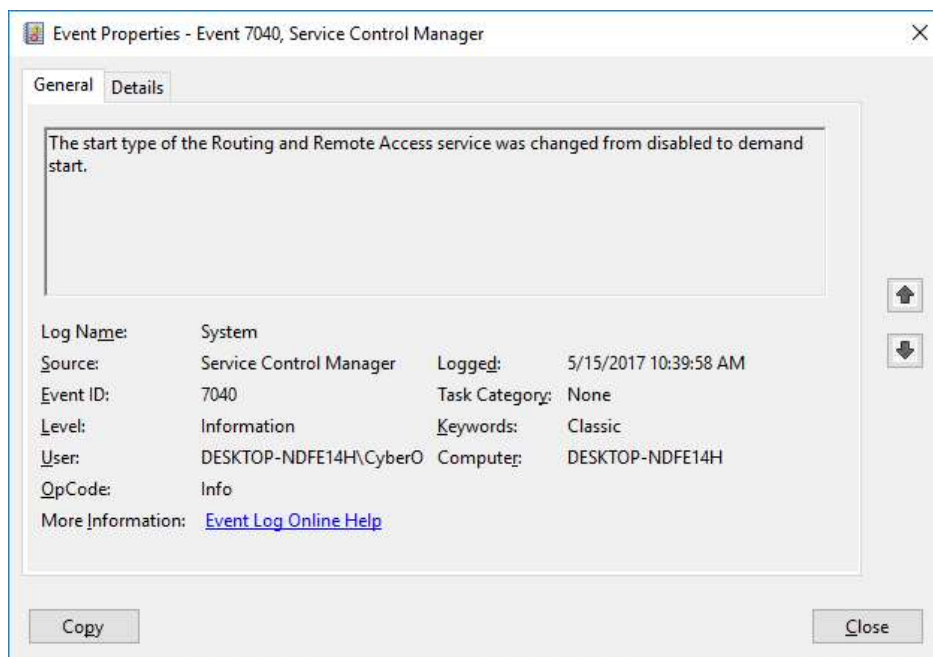
- a. Click **Control Panel > Administrative Tools**. Select **Computer Management**.
- b. In the **Computer Management** window, expand the three categories by clicking on the **arrow** next to **System Tools**.
- c. Click the arrow next to **Event Viewer** then click the arrow next to **Windows Logs**. Select **System**.



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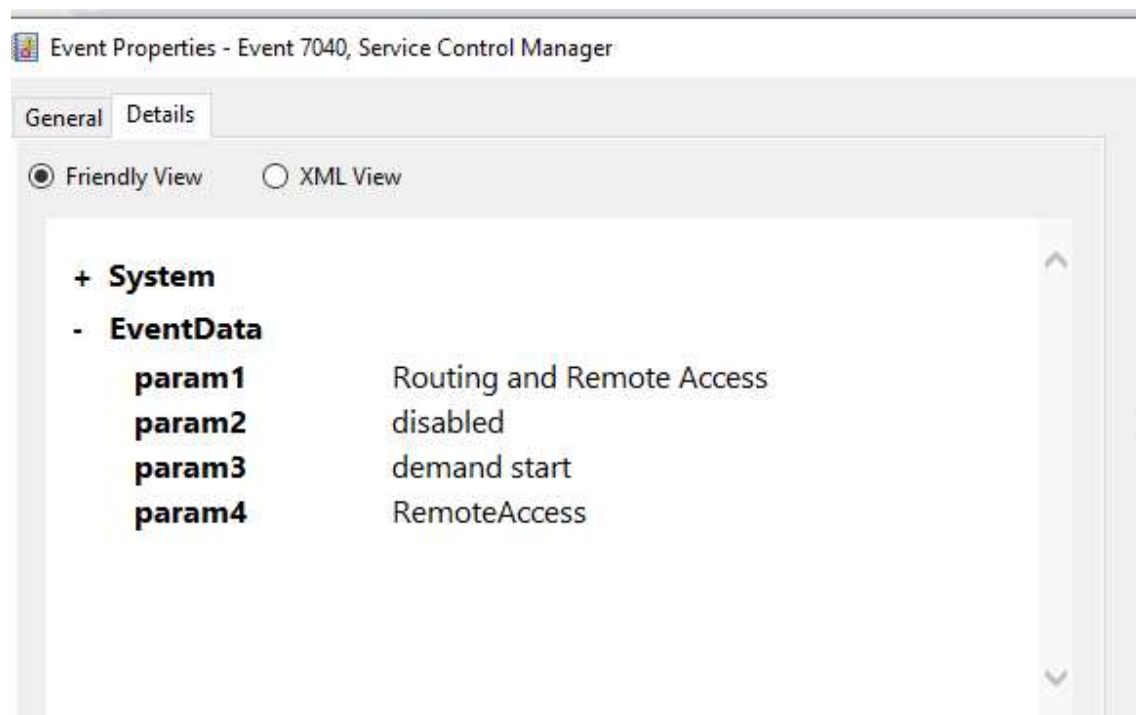
The **Event Properties** window opens for the first event. Click the **down arrow** key to locate an event for **Routing and Remote Access**. You should find four events that describe the order for starting and stopping the **Routing and Remote Access** service.



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What are the descriptions for each of the four events?



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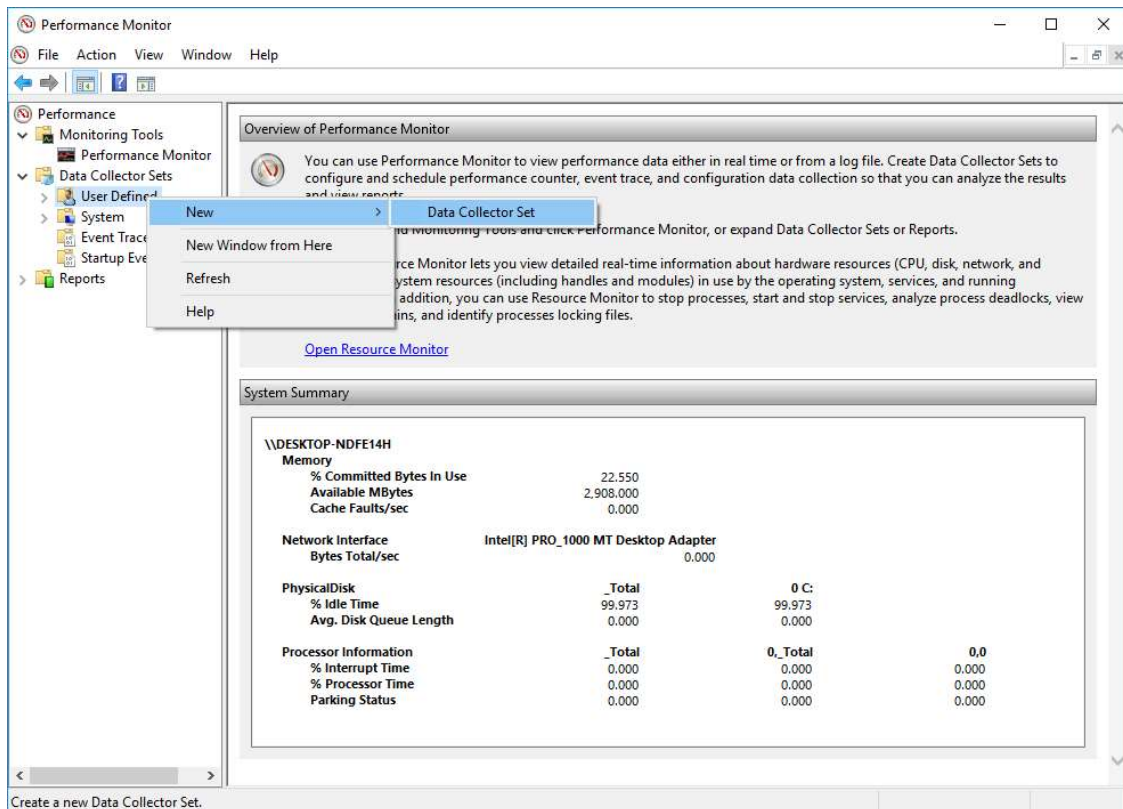
d. Close all open windows.

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### 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.

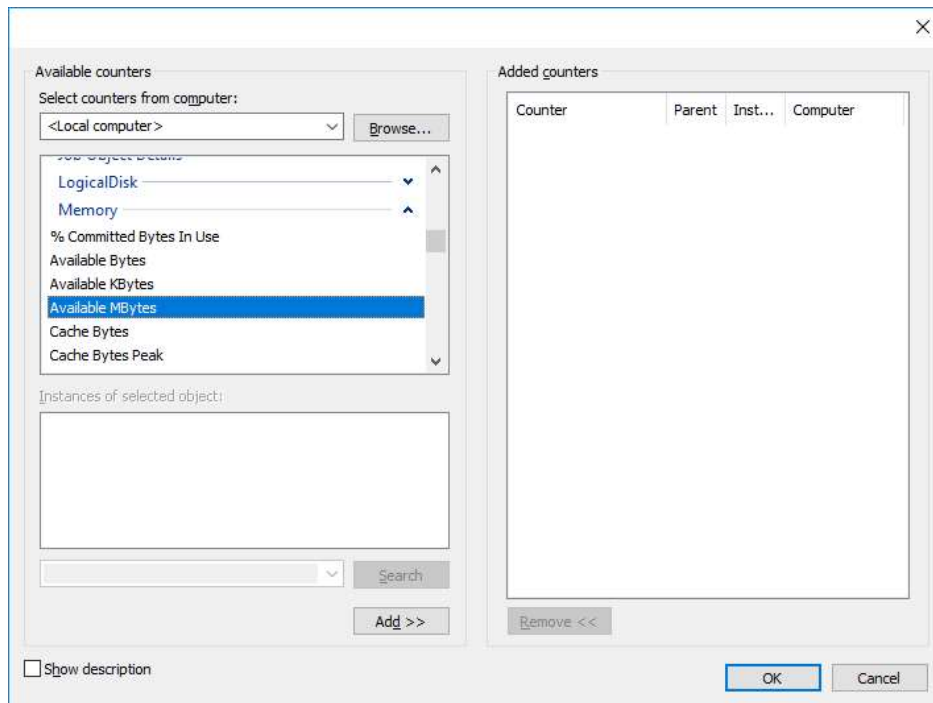
- Click **Control Panel > Administrative Tools > Performance Monitor**. The Performance Monitor window opens. Expand **Data Collector Sets**. Right-click **User Defined**, and select **New > Data Collector Set**.



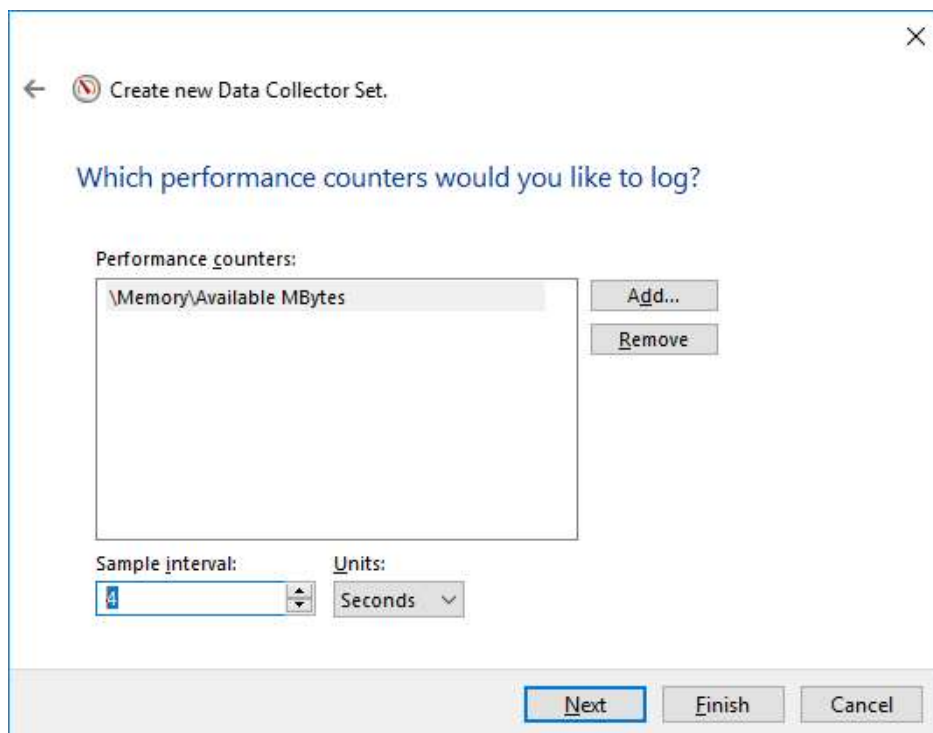
- The **Create new Data Collector Set** window opens. In the Name field, type **Memory Logs**. Select the **Create manually (Advanced)** radio button, and click **Next**.
- In the **What type of data do you want to include?** window, check the **Performance counter** box then click **Next**.
- In the **Which performance counters would you like to log?** window, click **Add**.

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

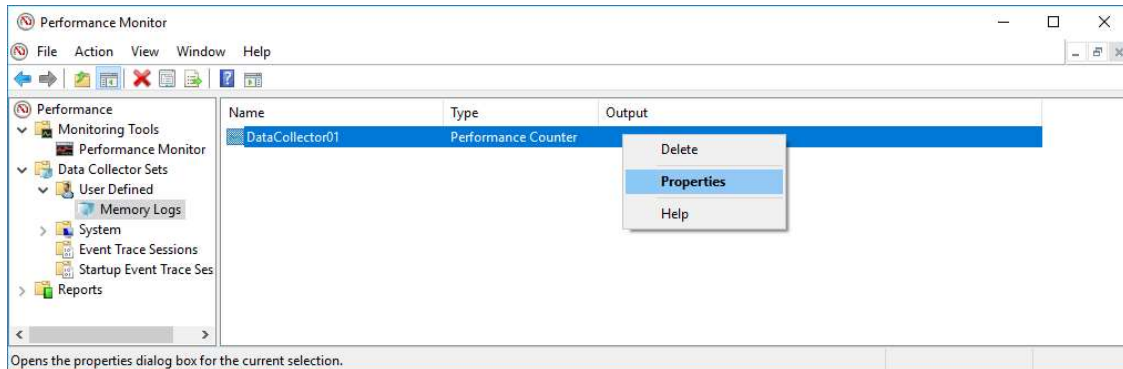


- f. You should see the **Available MBytes** counter added in the right pane. Click **OK**.
- g. Set the Sample interval field to **4** seconds. Click **Next**.

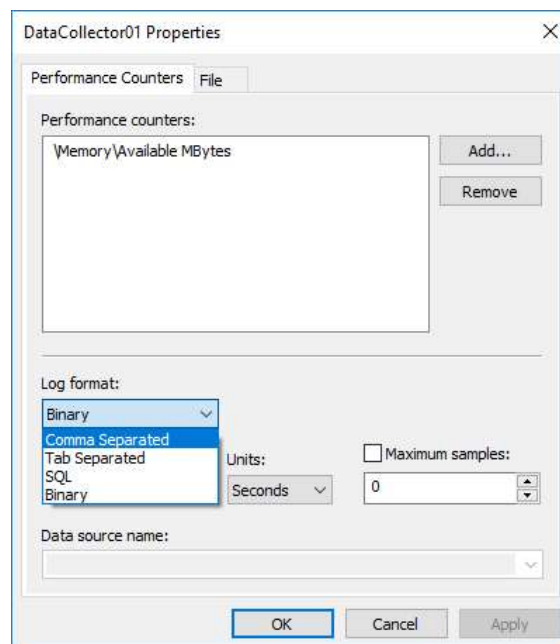


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- h. In the **Where would you like the data to be saved?** screen, click **Browse**.
- i. In the **Browse For Folder** window, select your **(C:)** drive which is **Local Disk (C:)**. Select **PerfLogs** and click **OK**.
- j. The **Where would you like the data to be saved?** window opens with the directory information that you selected in the previous step. Click **Next**.
- k. In the **Create the data collector set?** screen, click **Finish**.
- l. Expand **User Defined** and select **Memory Logs**. Right-click **Data Collector01** and select **Properties**.



- m. In the **DataCollector01 Properties** window, change the **Log format:** field to **Comma Separated**.



- n. Click the **File** tab.

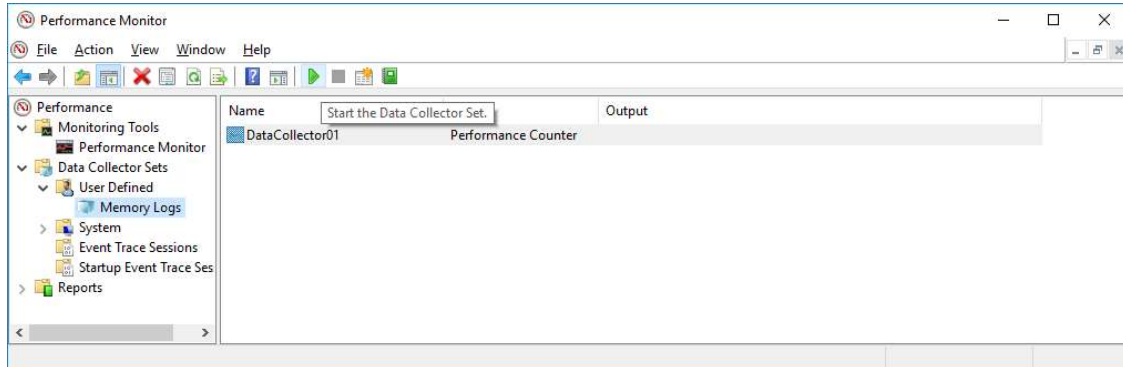
What is the full path name to the example file?

**C:\PerfLogs\DataCollectionName\DataCollector01.csv** нэртэй байна.

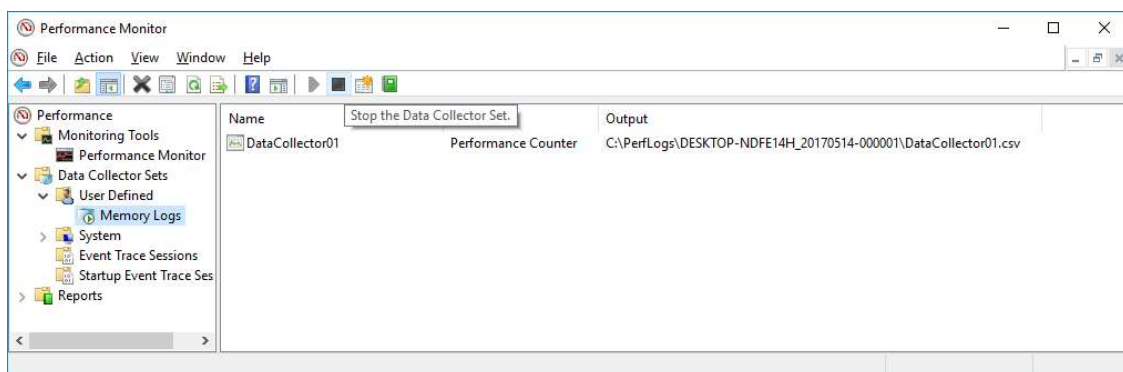
- o. Click **OK**.

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- 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.

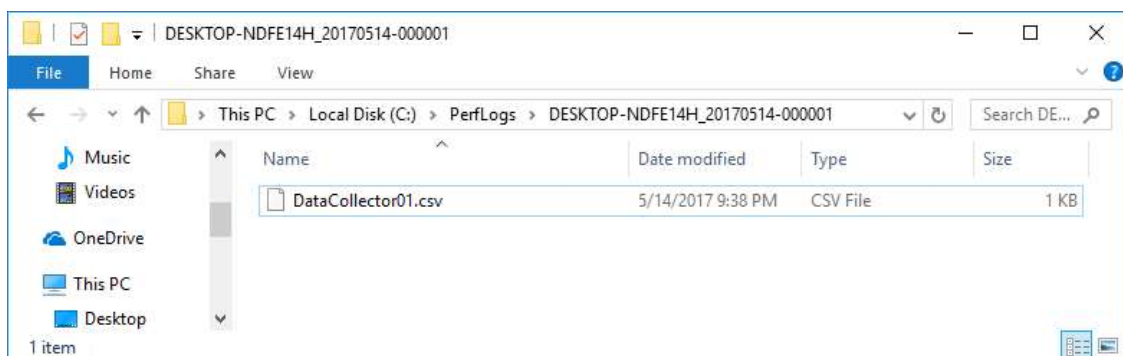


- q. To force the computer to use some of the available memory, open and close a browser.
- r. Click the **black square** icon to stop the data collection set.



What change do you notice for the Memory Logs icon?

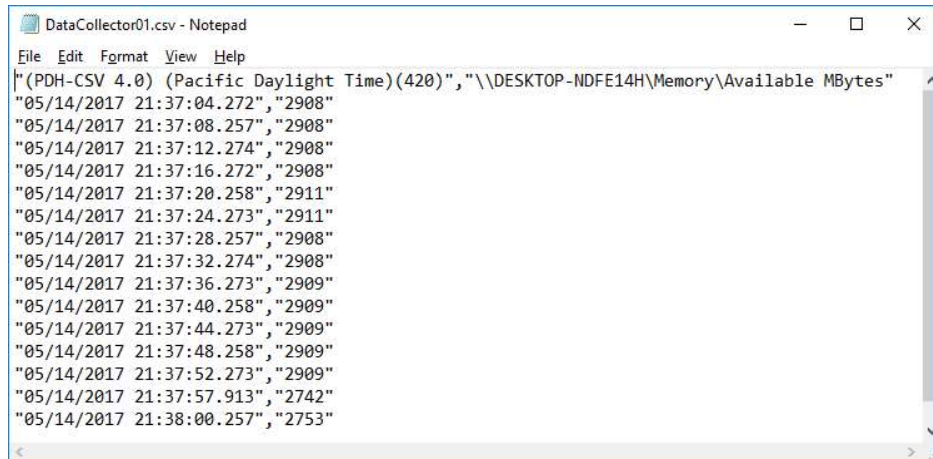
- s. Click **Start > Computer**, and click **drive C: > PerfLogs**. Locate the folder that starts with your PC's name followed by a timestamp, **DESKTOP-NDFE14H\_20170514-000001** in the example. Double-click the folder to open it, and then double-click the **DataCollector01.csv** file. **If prompted, click Continue to permit access to the folder.**





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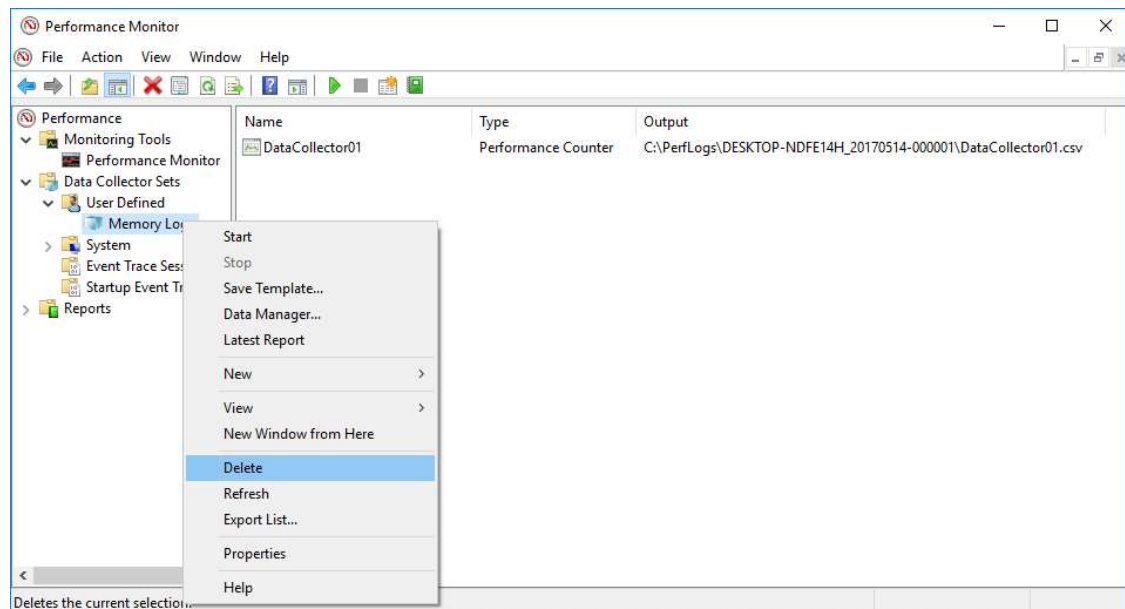
**Note:** If the **Windows cannot open the file:** message is displayed, select the radio button **Select a program from a list of installed programs** > **OK** > **Notepad** > **OK**.



What does the column farthest to the right show?

**Available Mbytes нэртэй байна**

- 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**.

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- y. Close all open windows.