



Lab - Windows Task Manager

Objectives

In this lab, you will explore Task Manager and manage processes from within Task Manager.

Part 1: Working in the Processes tab

Part 2: Working in the Services tab

Part 3: Working in the Performance tab

Background / Scenario

The Task Manager is a system monitor program that provides information about the processes and programs running on a computer. It also allows the termination of processes and programs and modification of process priority.

Required Resources

- A Windows PC with internet access

Instructions

Part 1: Working in the Processes tab

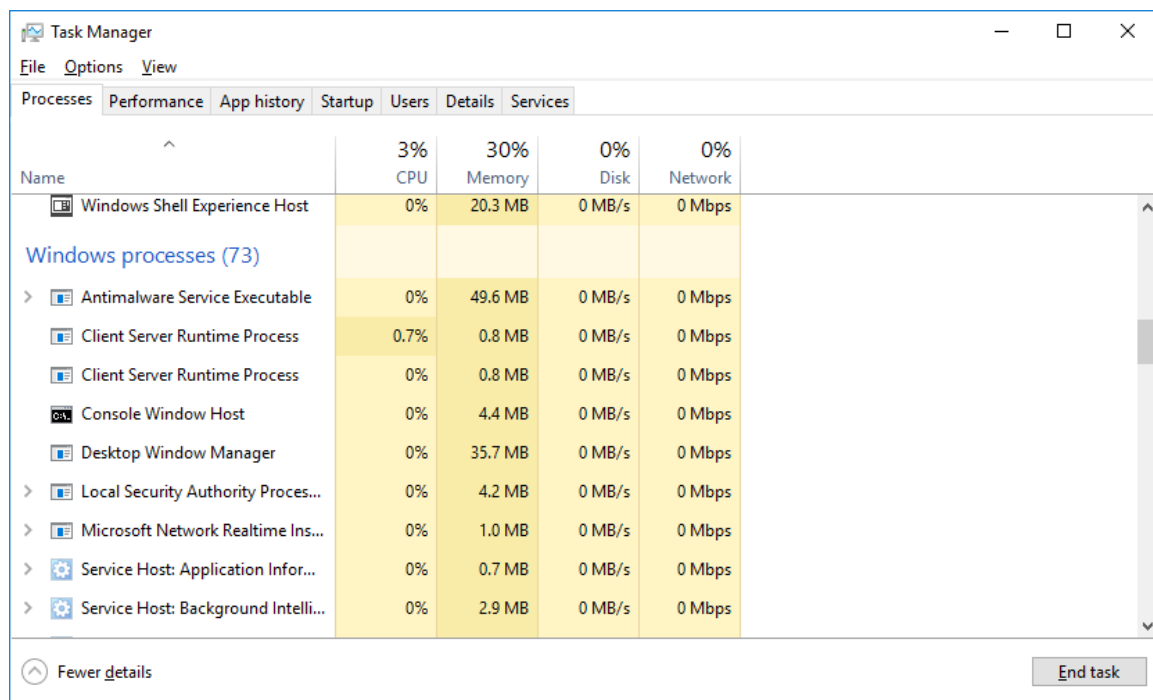
- Open a command prompt and a web browser.
Microsoft Edge is used in this lab; however, any web browser will work. Just substitute your browser name whenever you see Microsoft Edge.
- Right-click the Task bar to open **Task Manager**. Another way to open the Task Manager is to press **Ctrl-Alt-Delete** to access the Windows Security screen and select **Task Manager**.
- Click **More details** to see all the processes that are listed in the Processes tab.
- Expand the Windows Command Processor heading.

What is listed under this heading?

Details about Windows Command Processor process, including information such as its CPU and memory usage, its PID (Process ID).

- There are three categories of processes listed in the Processes tab: Apps, Background processes, and Windows processes.
 - The Apps are the applications that you have opened, such as Microsoft Edge, Task Manager, and Windows Command Processor, as shown in the figure above. Other applications that are opened by the users, such as web browsers and email clients, will also be listed here.
 - The Background processes are executed in the background by applications that are currently open.
 - The Windows processes are not shown in the figure. Scroll down to view them on your Windows PC. Windows processes are Microsoft Windows services that run in the background.

Some of the background processes or Windows processes may be associated with foreground processes. For example, if you open a command prompt window, the Console Window Host process will be started in the Windows process section, as shown below.



| Name | CPU | Memory | Disk | Network |
|-------------------------------------|------|---------|--------|---------|
| Windows Shell Experience Host | 0% | 20.3 MB | 0 MB/s | 0 Mbps |
| Windows processes (73) | | | | |
| Antimalware Service Executable | 0% | 49.6 MB | 0 MB/s | 0 Mbps |
| Client Server Runtime Process | 0.7% | 0.8 MB | 0 MB/s | 0 Mbps |
| Client Server Runtime Process | 0% | 0.8 MB | 0 MB/s | 0 Mbps |
| Console Window Host | 0% | 4.4 MB | 0 MB/s | 0 Mbps |
| Desktop Window Manager | 0% | 35.7 MB | 0 MB/s | 0 Mbps |
| Local Security Authority Proces... | 0% | 4.2 MB | 0 MB/s | 0 Mbps |
| Microsoft Network Realtime Ins... | 0% | 1.0 MB | 0 MB/s | 0 Mbps |
| Service Host: Application Infor... | 0% | 0.7 MB | 0 MB/s | 0 Mbps |
| Service Host: Background Intelli... | 0% | 2.9 MB | 0 MB/s | 0 Mbps |

- f. Right-click Console Window Host and select **Properties**.

What is the location of this filename and location of this process?

Location of the Filename: C:\Windows\System32

Location of the Process: C:\Windows\System32\conhost.exe

- g. Close the command prompt window.

What happens to Windows Command Processor and Console Window Host when the command prompt window is closed?

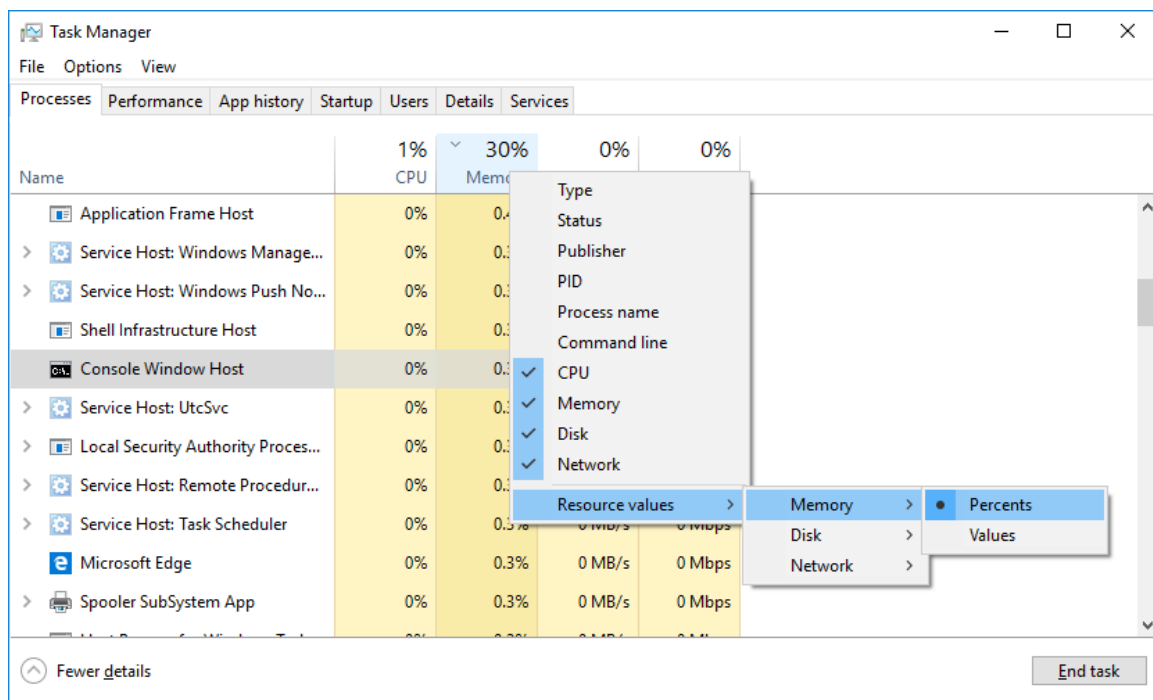
When you close the Command Prompt window in Windows, the associated processes, namely the Windows Command Processor and Console Window Host, are terminated.

- h. Click the Memory heading. Click the Memory heading a second time.

What effect does this have on the columns?

Clicking the "Memory" heading in the Task Manager twice typically sorts the processes based on their memory usage in descending order first and then in ascending order.

- i. Right-click on the Memory heading, and then select **Resource values > Memory > Percents**.



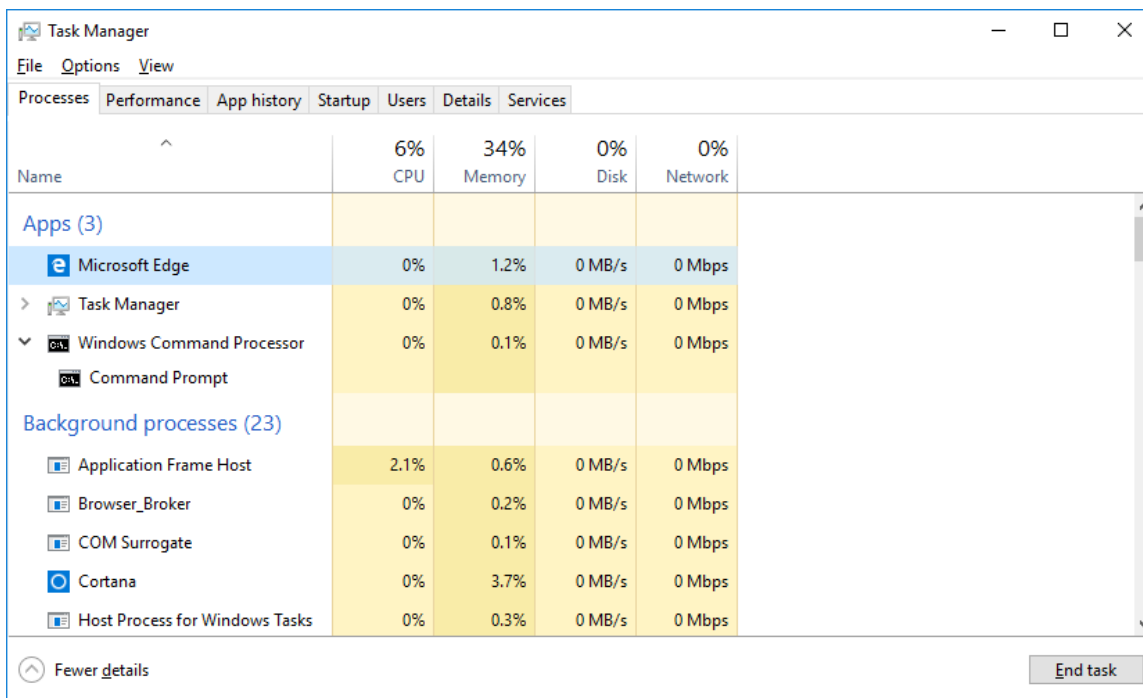
What affect does this have on the Memory column?

it changes the Memory column to display the percentage of total memory that each process is currently using.

How could this be useful?

This can be helpful for quickly assessing how much of the system's memory resources each process is utilizing relative to the total available memory.

- j. In the Task Manager, click the **Name** heading.



The screenshot shows the Windows Task Manager window with the 'Processes' tab selected. The window has a title bar 'Task Manager' and a menu bar 'File Options View'. Below the menu bar are tabs: 'Processes', 'Performance', 'App history', 'Startup', 'Users', 'Details', and 'Services'. The 'Processes' tab is active, displaying a table of running processes. The table has five columns: 'Name', 'CPU', 'Memory', 'Disk', and 'Network'. The 'Name' column is sorted by the 'Name' heading. The table is divided into two sections: 'Apps (3)' and 'Background processes (23)'. The 'Apps (3)' section lists 'Microsoft Edge', 'Task Manager', and 'Windows Command Processor' (which is expanded to show 'Command Prompt'). The 'Background processes (23)' section lists 'Application Frame Host', 'Browser_Broker', 'COM Surrogate', 'Cortana', and 'Host Process for Windows Tasks'. The 'End task' button is visible at the bottom right.

| Name | 6% CPU | 34% Memory | 0% Disk | 0% Network |
|----------------------------------|--------|------------|---------|------------|
| Apps (3) | | | | |
| Microsoft Edge | 0% | 1.2% | 0 MB/s | 0 Mbps |
| Task Manager | 0% | 0.8% | 0 MB/s | 0 Mbps |
| Windows Command Processor | 0% | 0.1% | 0 MB/s | 0 Mbps |
| Command Prompt | | | | |
| Background processes (23) | | | | |
| Application Frame Host | 2.1% | 0.6% | 0 MB/s | 0 Mbps |
| Browser_Broker | 0% | 0.2% | 0 MB/s | 0 Mbps |
| COM Surrogate | 0% | 0.1% | 0 MB/s | 0 Mbps |
| Cortana | 0% | 3.7% | 0 MB/s | 0 Mbps |
| Host Process for Windows Tasks | 0% | 0.3% | 0 MB/s | 0 Mbps |

- k. Double-click the Microsoft Edge.

What happens?

It opens a new window displaying additional details about that specific process.

- l. Return to the Task Manager and right-click Microsoft Edge. Select **End task**.

What happens to the web browser windows?

It terminates the Microsoft Edge process, forcibly closing all associated browser windows and tabs.

Part 2: Working in the Services tab

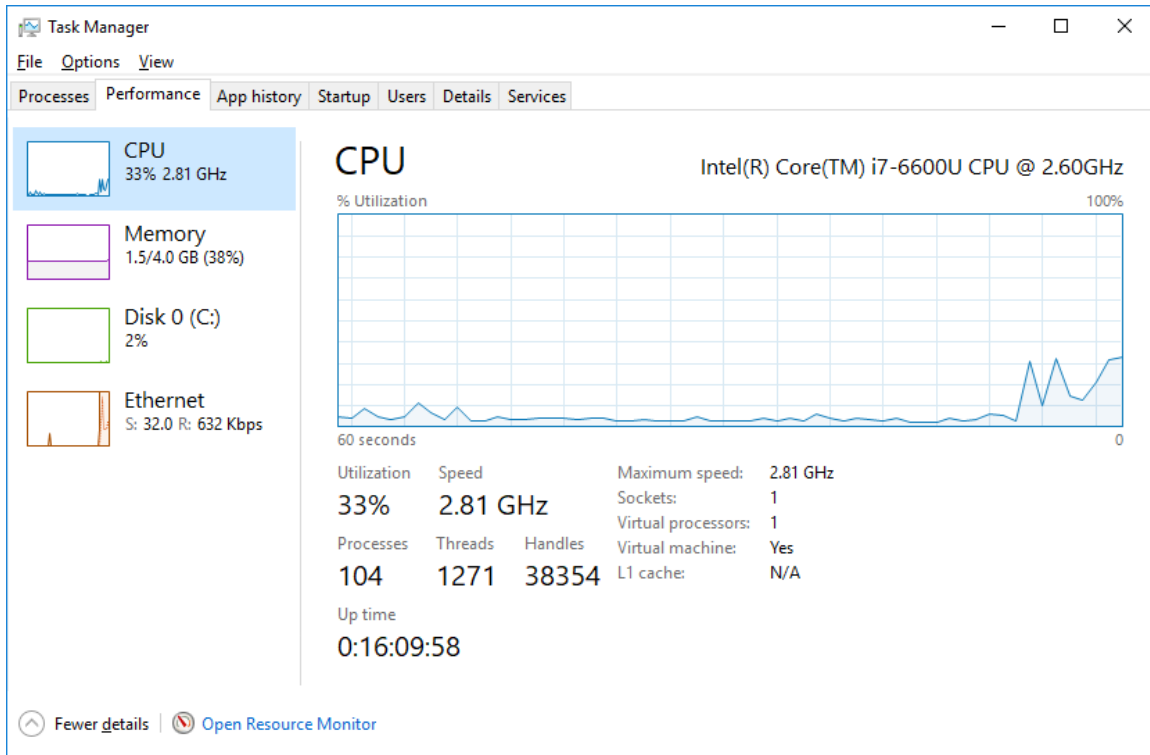
In the Task Manager window, click the **Services** tab. Use the scroll bar on the right side of the **Services** window to view all the services listed.

What statuses are listed?

The listed statues are Running and Stopped.

Part 3: Working in the Performance tab

- a. In the Task Manager window, click the **Performance** tab.



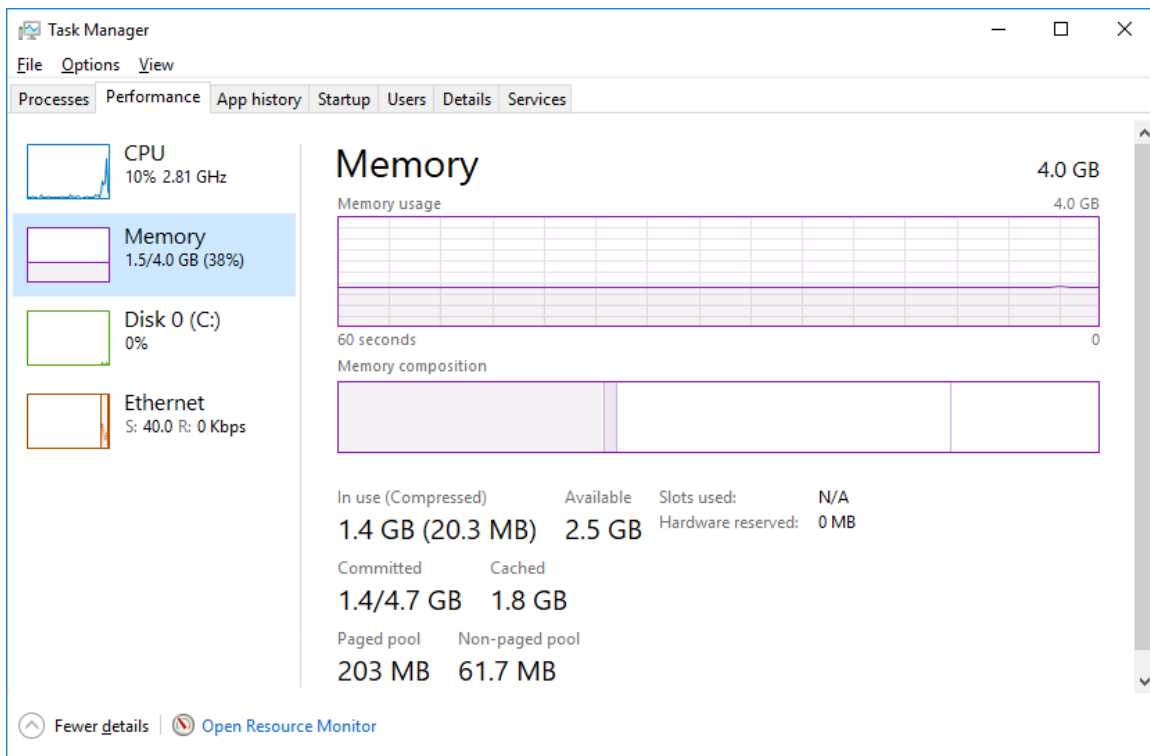
How many threads are running?

Threads: 1325

How many processes are running?

Processes: 124

- b. Click the **Memory** in the left panel of the **Performance** tab.



What is the total physical memory (MB)?

In use (compressed) = 2.2 GB * 1024 MB/GB = 2252.8 MB

Available = 7.5 GB * 1024 MB/GB = 7680 MB

Total Physical Memory (RAM) = In use (compressed) +

Available Total Physical Memory (RAM) = 2252.8 MB + 7680 MB = 9932.8 MB

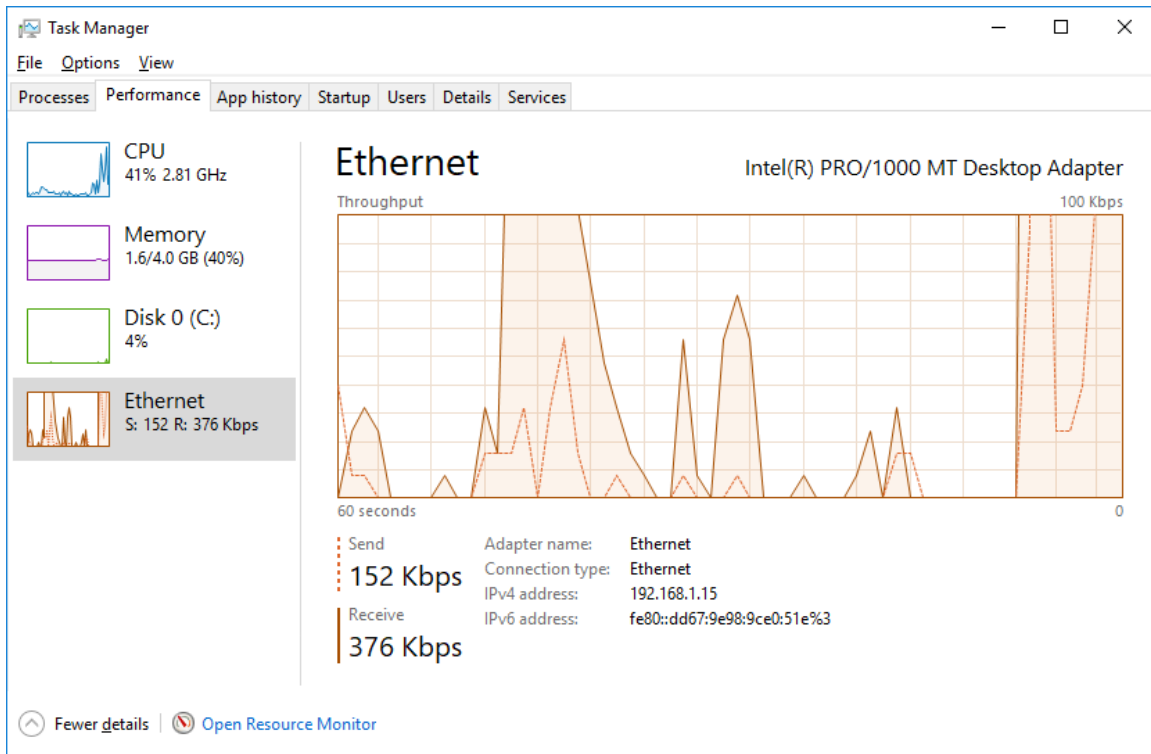
What is the available physical memory (MB)?

Available = 7.5 GB * 1024 MB/GB = 7680 MB

How much physical memory (MB) is being used by the computer?

In use (compressed) = 2.2 GB * 1024 MB/GB = 2252.8 MB

- c. Click the **Ethernet Chart** in the left panel of the **Performance** tab.



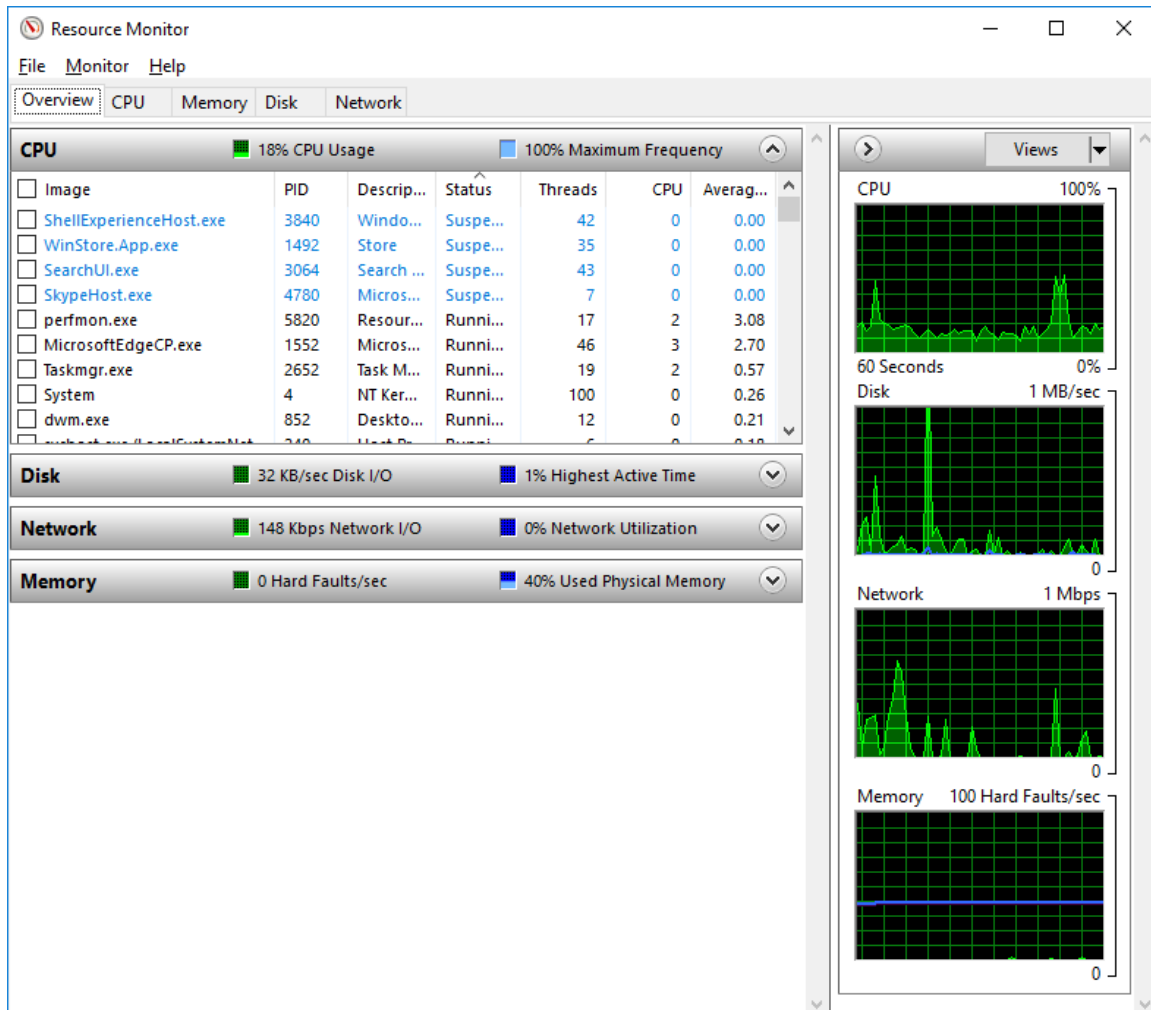
What is the link speed?

Link speed: 433.5 Mbps

What is the IPv4 address of the PC?

IPv4: 10.0.2.15

- d. Click **Open Resource Monitor** to open the Resource Monitor utility from the Performance tab in Task Manager.



Reflection Question

Why is it important for an administrator to understand how to work within the Task Manager?

Opening the Resource Monitor utility from the Performance tab in Task Manager allows you to access more detailed information about the performance of your system's resources, including CPU, memory, disk, and network usage. Resource Monitor provides insights into which processes and services are utilizing system resources, helping administrators diagnose performance issues, identify resource bottlenecks, and optimize system performance.