

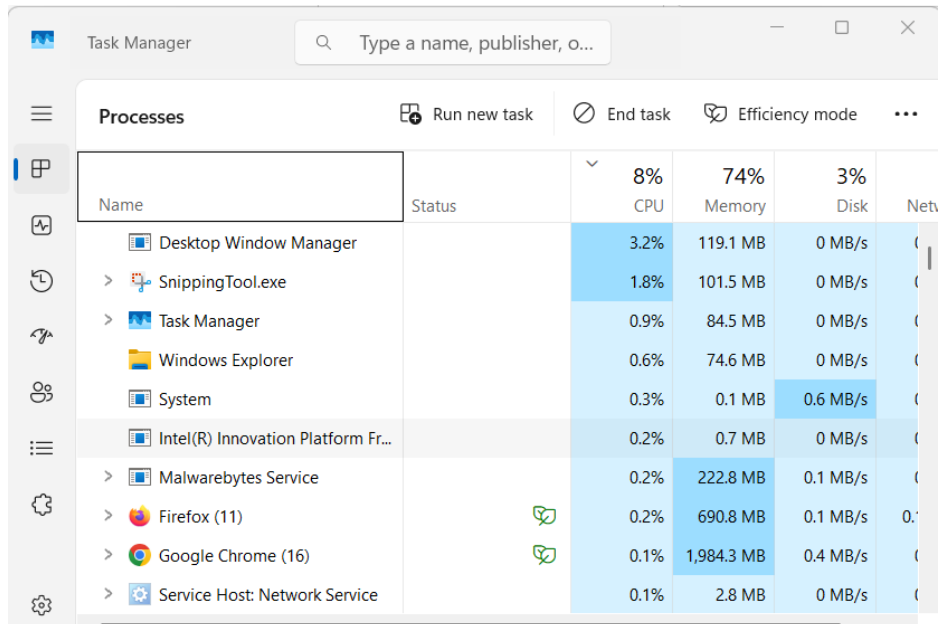
Homework: Operating Systems

Problems for homework for the "Software Technologies" course @ Software University
Submit this document as your homework.

1. Work with Task Manager in Windows

1. View processes:

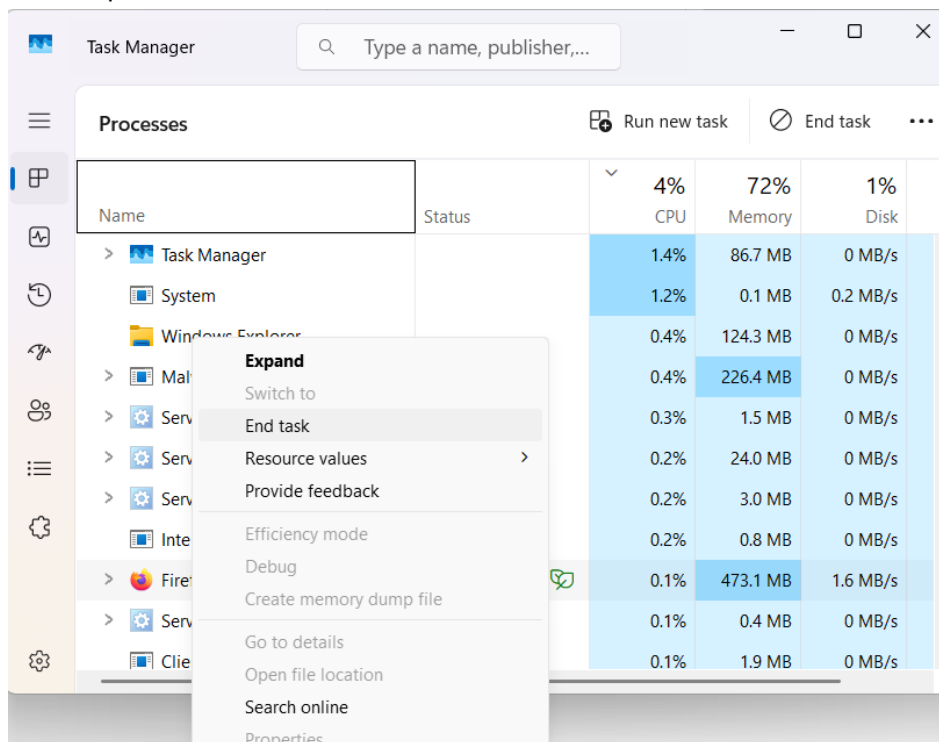
- Open Task Manager and view the list of running processes.
- Identify any processes that are using a high amount of CPU or RAM.



Name	Status	CPU	Memory	Disk	Net
Desktop Window Manager		3.2%	119.1 MB	0 MB/s	
> SnippingTool.exe		1.8%	101.5 MB	0 MB/s	
> Task Manager		0.9%	84.5 MB	0 MB/s	
> Windows Explorer		0.6%	74.6 MB	0 MB/s	
System		0.3%	0.1 MB	0.6 MB/s	
Intel(R) Innovation Platform Fr...		0.2%	0.7 MB	0 MB/s	
> Malwarebytes Service		0.2%	222.8 MB	0.1 MB/s	
> Firefox (11)		0.2%	690.8 MB	0.1 MB/s	0.1
> Google Chrome (16)		0.1%	1,984.3 MB	0.4 MB/s	
> Service Host: Network Service		0.1%	2.8 MB	0 MB/s	

2. Kill a process:

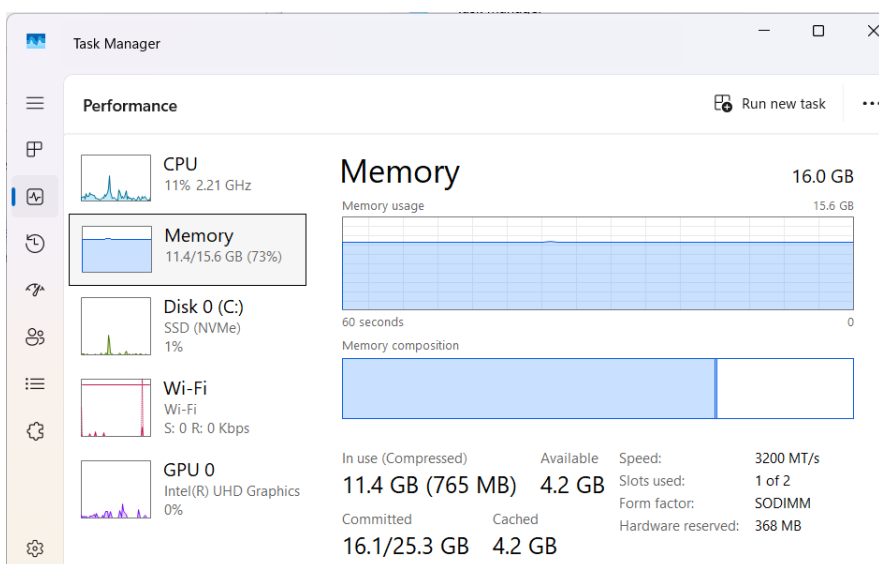
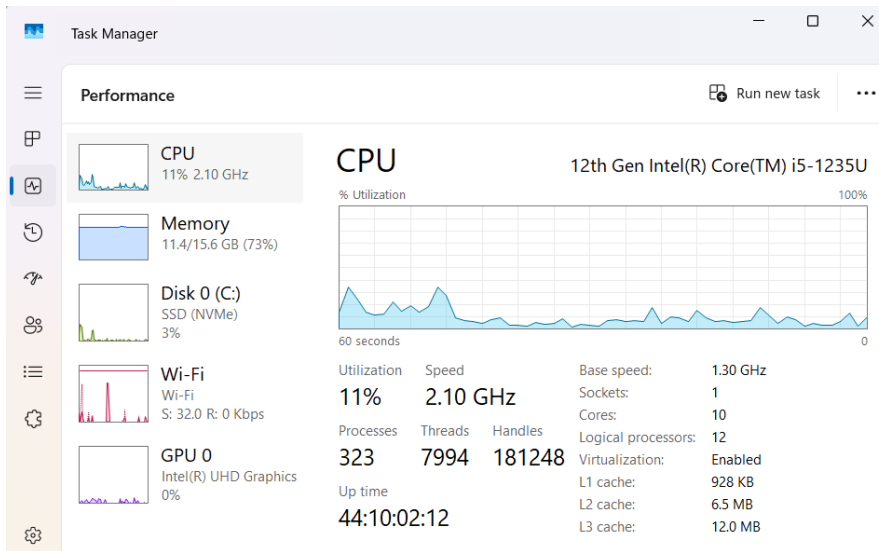
- Select a process from the list and end the task.



Name	Status	CPU	Memory	Disk	Net
> Task Manager		1.4%	86.7 MB	0 MB/s	
System		1.2%	0.1 MB	0.2 MB/s	
> Windows Explorer		0.4%	124.3 MB	0 MB/s	
> Malwarebytes Service		0.4%	226.4 MB	0 MB/s	
> Service Host: Network Service		0.3%	1.5 MB	0 MB/s	
> Service Host: Network Service		0.2%	24.0 MB	0 MB/s	
> Service Host: Network Service		0.2%	3.0 MB	0 MB/s	
Intel(R) Innovation Platform Fr...		0.2%	0.8 MB	0 MB/s	
> Firefox (11)		0.1%	473.1 MB	1.6 MB/s	
> Service Host: Network Service		0.1%	0.4 MB	0 MB/s	
Client Server Runtime Process		0.1%	1.9 MB	0 MB/s	

3. View CPU & RAM usage:

- Navigate to the Performance tab in Task Manager and view the CPU & Memory usage.



! Replace all pictures with screenshots from your PC.

2. Play with Windows Terminal

1. Navigate Directories:

- Use the "cd" command to navigate to different directories in the Windows Terminal:
 - Desktop
 - Documents
 - Downloads

- Example (make screenshots of all three directories):

```
PS C:\Users\MaraE> cd C:\Users\MaraE\Desktop
```

```
PS C:\Users\MaraE\Desktop> cd C:\Users\MaraE\Documents
```

```
PS C:\Users\MaraE\Documents> cd C:\Users\MaraE\Downloads
```

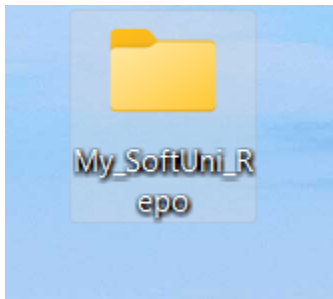
- Create folder named My_SoftUni_Repo on the Desktop through the Terminal.
- Example:

```
PS C:\Users\MaraE\Desktop> mkdir My_SoftUni_Repo

Directory: C:\Users\MaraE\Desktop

Mode                LastWriteTime         Length Name
----                -
d-----          23/05/2025   13:40                My_SoftUni_Repo

PS C:\Users\MaraE\Desktop> |
```



- Enter the created folder through the Terminal and make a screenshot:

```
PS C:\Users\MaraE\Desktop> cd My_Softuni_Repo
PS C:\Users\MaraE\Desktop\My_Softuni_Repo> |
```

! Replace all pictures with screenshots from your PC.

3. Play with Docker Playground & Run a Linux Shell inside

1. Run your own container in Docker Playground and make an HTTP request from Linux Shell:

- Your task is to run a new docker container and make an HTTP request to the following API:
<https://api.zippopotam.us/>
- Extend the URL with "de" for Germany, and find a valid postal code that you can use to extract information from the API.
- Replace the example images with your own screenshots.
- Examples:

```
[node1] (local) root@192.168.0.28 ~
$ curl -s https://api.zippopotam.us/de/80331 | jq .
{
  "country": "Germany",
  "country abbreviation": "DE",
  "post code": "80331",
  "places": [
    {
      "place name": "München",
      "longitude": "11.571",
      "latitude": "48.1345",
      "state": "Bayern",
      "state abbreviation": "BY"
    }
  ]
}
```

```
[node1] (local) root@192.168.0.28 ~
$ curl -s https://api.zippopotam.us/de/60594 | jq .
{
  "country": "Germany",
  "country abbreviation": "DE",
  "post code": "60594",
  "places": [
    {
      "place name": "Frankfurt am Main",
      "longitude": "50.1026",
      "latitude": "06412",
      "state": "Hessen",
      "state abbreviation": "HE"
    }
  ]
}
```