

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.

File Options View							
Processes Performance App history Startup Users Details Services							
Name	Status	22% CPU	87% Memory	1% Disk	0% Network	Power usage	Power usage t...
Desktop Window Manager		4,7%	33,1 MB	0,1 MB/s	0 Mbps	Low	Very low
Google Chrome (15)		4,2%	633,9 MB	0,1 MB/s	0 Mbps	Low	Very low
Task Manager		3,3%	17,1 MB	0 MB/s	0 Mbps	Low	Very low
BrYNCSvc (32 bit)		2,7%	2,5 MB	0 MB/s	0 Mbps	Low	Very low
Windows Audio Device Graph Is...		1,7%	4,2 MB	0 MB/s	0 Mbps	Very low	Very low
Windows Explorer (2)		1,2%	41,4 MB	0 MB/s	0 Mbps	Very low	Very low
System		0,7%	0,1 MB	0,1 MB/s	0 Mbps	Very low	Very low
Spooler SubSystem App		0,7%	2,5 MB	0 MB/s	0 Mbps	Very low	Very low
Intel(R) System Usage Report		0,7%	34,9 MB	0,1 MB/s	0 Mbps	Very low	Very low
Intel Driver & Support Assistant ...		0,5%	23,3 MB	0 MB/s	0 Mbps	Very low	Very low
Node.js JavaScript Runtime		0,5%	19,9 MB	0 MB/s	0 Mbps	Very low	Very low
µTorrent (32 bit)		0,4%	24,8 MB	0,3 MB/s	0 Mbps	Very low	Very low

2. Kill a process:

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

File Options View							
Processes Performance App history Startup Users Details Services							
Name	Status	21% CPU	88% Memory	1% Disk	0% Network	Power usage	Power usage t...
Task Manager		4,0%	17,5 MB	0 MB/s	0 Mbps	Low	Very low
Google Chrome (15)		3,6%	633,2 MB	0 MB/s	0 Mbps	Low	Very low
BrYNCSvc (32 bit)		3,0%	2,4 MB	0 MB/s	0 Mbps	Low	Very low
µTorrent (32 bit)		2,2%	24,9 MB	0,3 MB/s	0 Mbps	Very low	Very low
Desktop Window Manager		1,9%	27,4 MB	0 MB/s	0 Mbps	Very low	Very low
Intel(R) System Usage Report		1,6%	34,9 MB	0,1 MB/s	0 Mbps	Very low	Very low
Windows Audio Device Graph Is...		0,8%	4,2 MB	0 MB/s	0 Mbps	Very low	Very low
Service Host: Network Service (4)		0,7%	5,2 MB			Low	Very low
LocalServiceNoNetworkFirewall ...		0,6%	4,8 MB			Low	Very low
Intel Driver & Support Assistant ...		0,5%	19,0 MB			Low	Very low
System		0,3%	0,1 MB			Low	Very low
Windows Explorer (2)		0,3%	41,1 MB			Low	Very low
DSASvc (32 bit)		0,3%	10,5 MB			Low	Very low
Local Security Authority Process		0,2%	4,2 MB			Low	Very low

End task

Resource values >

Provide feedback

Create dump file

Go to details

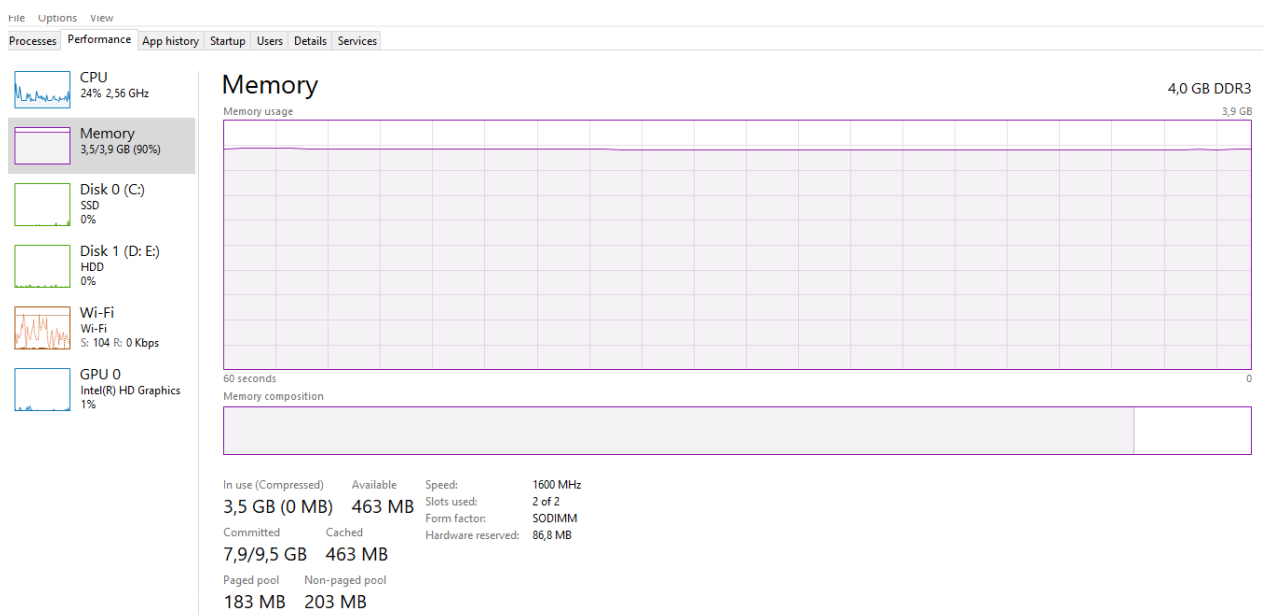
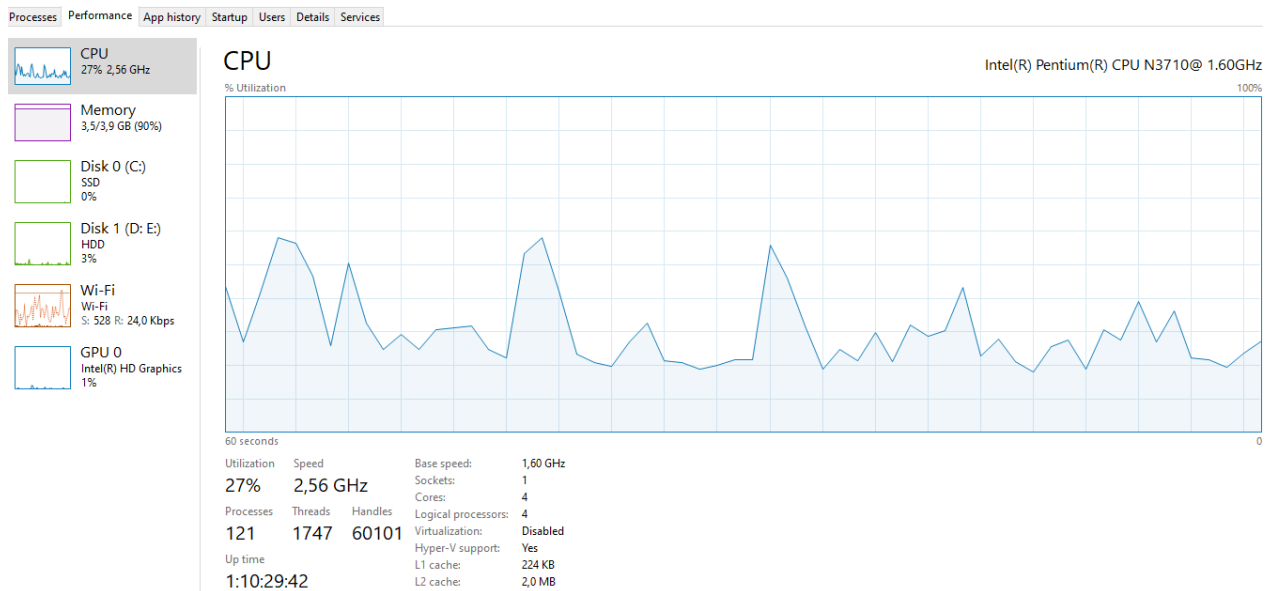
Open file location

Search online

Properties

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

```

Directory: C:\Users\Stefcho\Desktop

Mode                LastWriteTime         Length Name
----                -
d-----          11.5.2023 г.      19:30          България Иншуранс
d-----          28.3.2023 г.       0:25          Фитнес документи
-a----          13.8.2022 г.      13:30        1300 ESET Online Scanner.lnk
-a----          24.7.2022 г.      20:24        1003 GalaxyWatchStudio.lnk
-a----           7.8.2022 г.      21:37        2782 Microsoft Excel 2010.lnk
-a----           7.8.2022 г.      21:38        2818 Microsoft Word 2010.lnk
-a----          31.8.2022 г.      22:30        1387 Prime World Defenders.lnk
-a----          16.8.2022 г.      10:58         908 µTorrent.lnk

PS C:\Users\Stefcho\Desktop>

```

➤ Documents

```

Directory: C:\Users\Stefcho\Documents

Mode                LastWriteTime         Length Name
----                -
d-----          15.3.2023 г.       7:38          Adobe
d-----           4.5.2023 г.       7:19          Allavsoft
d-----          14.8.2022 г.      20:56          Corel
d-----          23.7.2022 г.      14:18          Corel Cloud
d-----          21.5.2023 г.      20:24          Lightshot
d-----          28.7.2022 г.      14:17          My Palettes
d-----          25.2.2023 г.      16:52          Wondershare DemoCreator
d-----          21.5.2022 г.      13:56          Workspace
-a----          15.7.2022 г.       8:30        4853 Неозаглавено 1.xlsx

PS C:\Users\Stefcho\Documents>

```

➤ Downloads

```

PS C:\Users\Stefcho\Downloads> cd
PS C:\Users\Stefcho> cd C:\Users\Stefcho\Downloads
PS C:\Users\Stefcho\Downloads> dir

Directory: C:\Users\Stefcho\Downloads

Mode                LastWriteTime         Length Name
----                -
d-----          23.5.2023 г.       7:49          all
d-----          24.7.2022 г.      12:09          Doc
d-----           9.9.2022 г.      17:27          install
d-----          24.7.2022 г.      12:09          Libs
d-----          26.11.2022 г.      12:09          Movie
d-----          15.7.2022 г.       7:55          Music
d-----          24.7.2022 г.      11:43          platform-tools
d-----          10.7.2022 г.       9:55          players
d-----          24.7.2022 г.      12:09          Samples
d-----          24.7.2022 г.      12:09          Tools
-a----          23.5.2023 г.       7:29       105652224 PowerShell-7.3.4-win-x64.ms

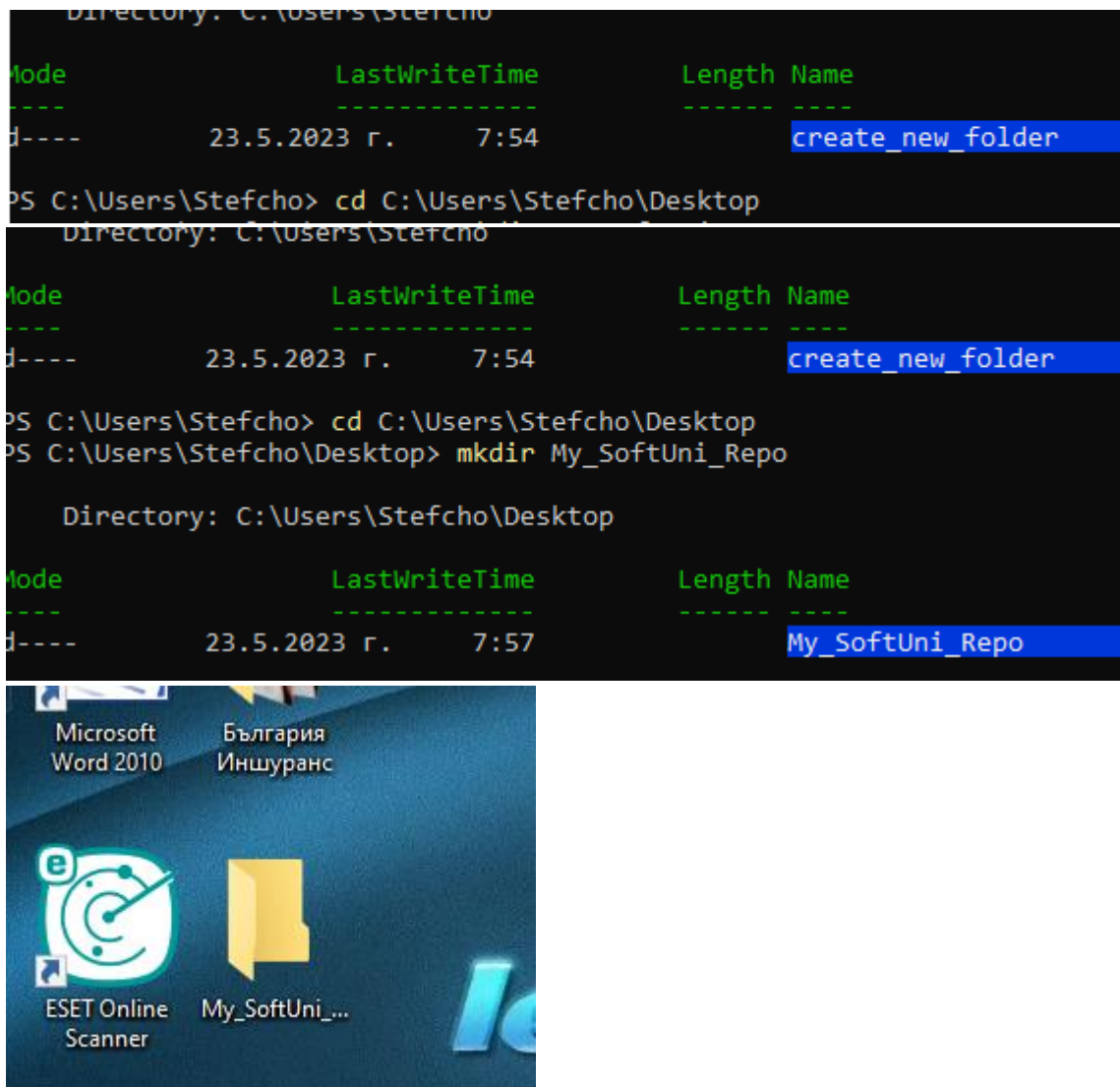
PS C:\Users\Stefcho\Downloads>

```

- Example (make screenshots of all three directories):

```
PS C:\Users\krass> cd C:\users\krass\Desktop
```

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



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

```
PS C:\users\krass\Desktop> you-have-to-navigate-to-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:

03:10:01

CLOSE SESSION

Instances  

+ ADD NEW INSTANCE


192.168.0.28
node1

chm36309_chm3l7g9ec4g00au4ud0

IP
192.168.0.28 OPEN PORT

Memory
1.31% (52.49MiB / 3.906GiB)

CPU
0.39%

SSH
ssh ip172-18-0-12-chm36309ec4g00au4t8g@direct.labs.pla 



DELETE

EDITOR

```
bash: jp: command not found
[node1] (local) root@192.168.0.28 ~
$ curl -s https://api.zippopotam.us/bg/1000 | jq .
{
  "post code": "1000",
  "country": "Bulgaria",
  "country abbreviation": "BG",
  "places": [
    {
      "place name": "София / Sofija",
      "longitude": "23.3167",
      "state": "София (столица) / Sofija (stolica)",
      "state abbreviation": "SOF",
      "latitude": "42.6833"
    }
  ]
}
[node1] (local) root@192.168.0.28 ~
$
```

03:07:43

CLOSE SESSION

Instances  

+ ADD NEW INSTANCE


192.168.0.28
node1

chm36309_chm3l7g9ec4g00au4ud0

IP
192.168.0.28 OPEN PORT

Memory
1.32% (52.97MiB / 3.906GiB)

CPU
0.20%

SSH
ssh ip172-18-0-12-chm36309ec4g00au4t8g@direct.labs.pla 

DELETE

EDITOR

```
}
[node1] (local) root@192.168.0.28 ~
$ curl -s https://api.zippopotam.us/de/50667 | jq .
{
  "post code": "50667",
  "country": "Germany",
  "country abbreviation": "DE",
  "places": [
    {
      "place name": "Köln",
      "longitude": "50.9384",
      "state": "Nordrhein-Westfalen",
      "state abbreviation": "NW",
      "latitude": "05315"
    }
  ]
}
[node1] (local) root@192.168.0.28 ~
$
```