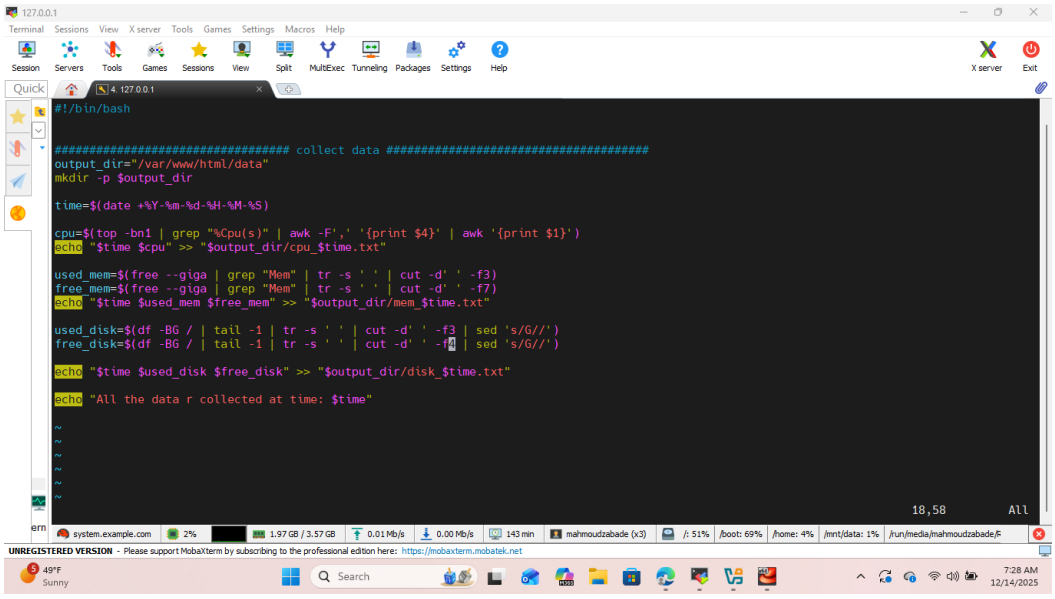
Task2

Collect data script (collect.sh)



```
#!/bin/bash


################################ collect data ###################################
output_dir="/var/www/html/data"
mkdir -p $output_dir

time=$(date +%Y-%m-%d-%H-%M-%S)

cpu=$(top -bn1 | grep "%Cpu(s)" | awk -F',' '{print $4}' | awk '{print $1}')
echo "$time $cpu" >> "$output_dir/cpu_$time.txt"

used_mem=$(free --giga | grep "Mem" | tr -s ' ' | cut -d' ' -f3)
free_mem=$(free --giga | grep "Mem" | tr -s ' ' | cut -d' ' -f7)
echo "$time $used_mem $free_mem" >> "$output_dir/mem_$time.txt"

used_disk=$(df -BG / | tail -1 | tr -s ' ' | cut -d' ' -f3 | sed 's/G//')
free_disk=$(df -BG / | tail -1 | tr -s ' ' | cut -d' ' -f4 | sed 's/G//')

echo "$time $used_disk $free_disk" >> "$output_dir/disk_$time.txt"

echo "All the data r collected at time: $time"

~
~
~
~
~
~
                                                                    18,58         All
```

Display the collected data script (calculate_avg.sh)

- **CPU calculations and HTML code**

```
################################ CPU calculations & HTML code ###################################
total=0
count=0

for file in "$data_dir"/cpu_*.txt; do
        value=$(cat "$file" | cut -d' ' -f2)
        total=$(echo "$total + $value" | bc)
        count=$((count + 1))
done


if [ $count -gt 0 ]; then
        cpu_avg=$(echo "scale=1; $total / $count" | bc)
else
        cpu_avg=0
fi


cat > "$html_dir"/cpu.html <<EOF
<!DOCTYPE html>
<html>
<head><title>CPU Ideal</title></head>
<body>
<h1>CPU Ideal</h1>
<p>Average: $cpu_avg%</p>
<ul>
EOF


for file in "$data_dir"/cpu_*.txt; do
        date=$(cut -d ' ' -f1 "$file")
        Ideal=$(cut -d' ' -f2 "$file")
        #echo "<li>Date = "$date"              Ideal(%) = "$Ideal"</li>" >> "$html_dir/cpu.html"
        echo "<li>Date = $date      Ideal(%) = $Ideal</li>" >> "$html_dir/cpu.html"

done

echo "</ul></body></html>" >> "$html_dir/cpu.html"
```

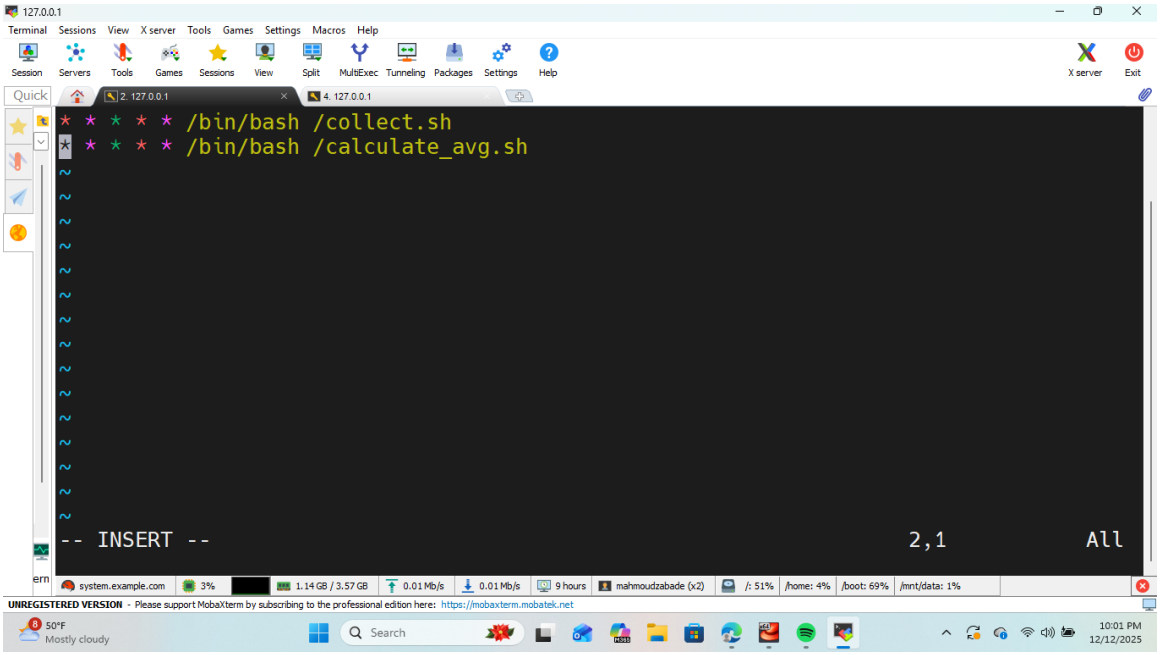
- **Memory calculations and HTML code**

```
count=0
for file in "$data_dir"/mem_*.txt; do
        value1=$(cat "$file" | cut -d' ' -f2)
        value2=$(cat "$file" | cut -d' ' -f3)
        total1=$((total1 + value1))
        total2=$((total2 + value2))
        count=$((count + 1))
done

if [ $count -gt 0 ]; then
        used_mem_avg=$((total1 / count))
        free_mem_avg=$((total2 / count))
else
        used_mem_avg=0
        free_mem_avg=0
fi

cat > "$html_dir"/mem.html <<EOF
<!DOCTYPE html>
<html>
<head><title>Memory Statistics</title></head>
<body>
<h1>Memory Statistics</h1>
<p>Average Used: $used_mem_avg GB</p>
<p>Average Free: $free_mem_avg GB</p>
<ul>
EOF




for file in "$data_dir"/mem_*.txt; do
        mem_date=$(cut -d' ' -f1 "$file")
        mem_used=$(cut -d' ' -f2 "$file")
        mem_free=$(cut -d' ' -f3 "$file")
    #echo "<li>$(cat $file)</li>" >> "$html_dir/mem.html"
    echo "<li>Date = $mem_date      Used(GB) = $mem_used      Free(GB) = $mem_free</li>" >> "$html_dir/mem.html"

done
                                                                                                                                59,0-1        48%
```

- **Disk calculations and HTML code**

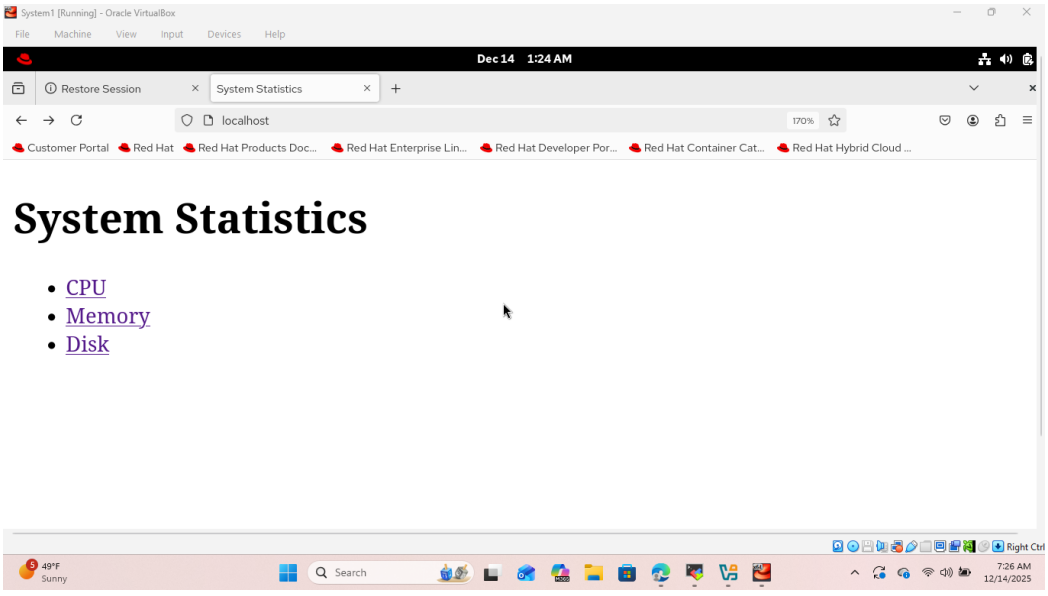
```
for file in "$data_dir"/disk_*.txt; do
        value1=$(cat "$file" | cut -d' ' -f2)
        value2=$(cat "$file" | cut -d' ' -f3)
        total1=$((total1 + value1))
        total2=$((total2 + value2))
        count=$((count + 1))
done

if [ $count -gt 0 ]; then
        used_disk_avg=$((total1 / count))
        free_disk_avg=$((total2 / count))
else
        used_disk_avg=0
        free_disk_avg=0
fi



cat > "$html_dir"/disk.html <<EOF
<!DOCTYPE html>
<html>
<head><title>Disk Statistics</title></head>
<body>
<h1>Disk Statistics</h1>
<p>Average Used: $used_disk_avg GB</p>
<p>Average Free: $free_disk_avg GB</p>
<ul>
EOF



for file in "$data_dir"/disk_*.txt; do
        disk_date=$(cut -d' ' -f1 "$file")
        disk_used=$(cut -d' ' -f2 "$file")
        disk_free=$(cut -d' ' -f3 "$file")
  echo "<li>Date = $disk_date      Used(GB) = $disk_used      Free(GB) = $disk_free</li>" >> "$html_dir/disk.html"

    #echo "<li>$(cat $file)</li>" >> "$html_dir/disk.html"
done
                                                                                                                                108,28        99%
```

Crontab

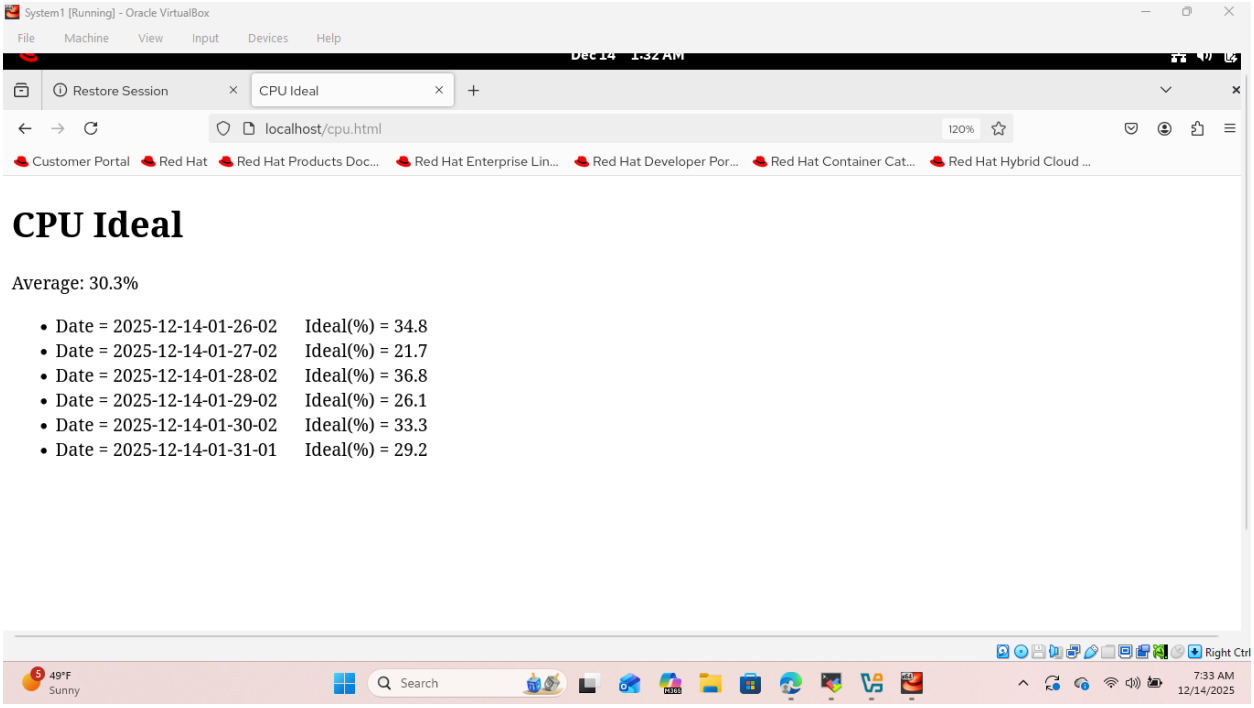


HTML page & Results

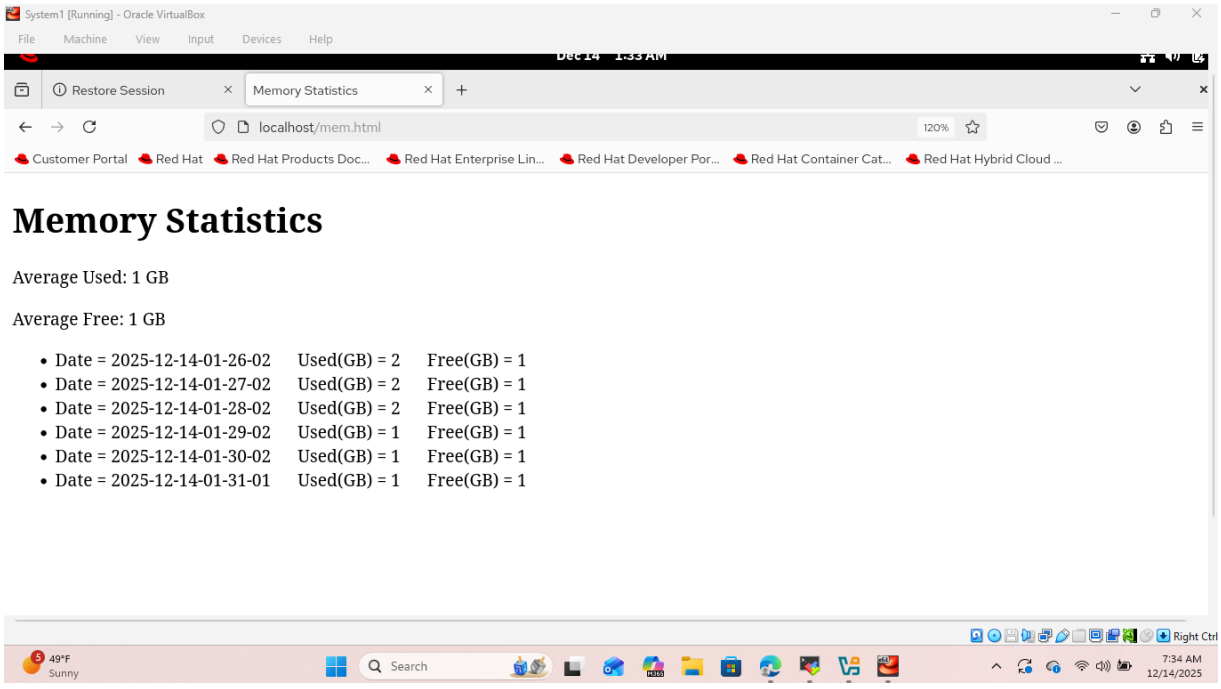
- **Main Page**



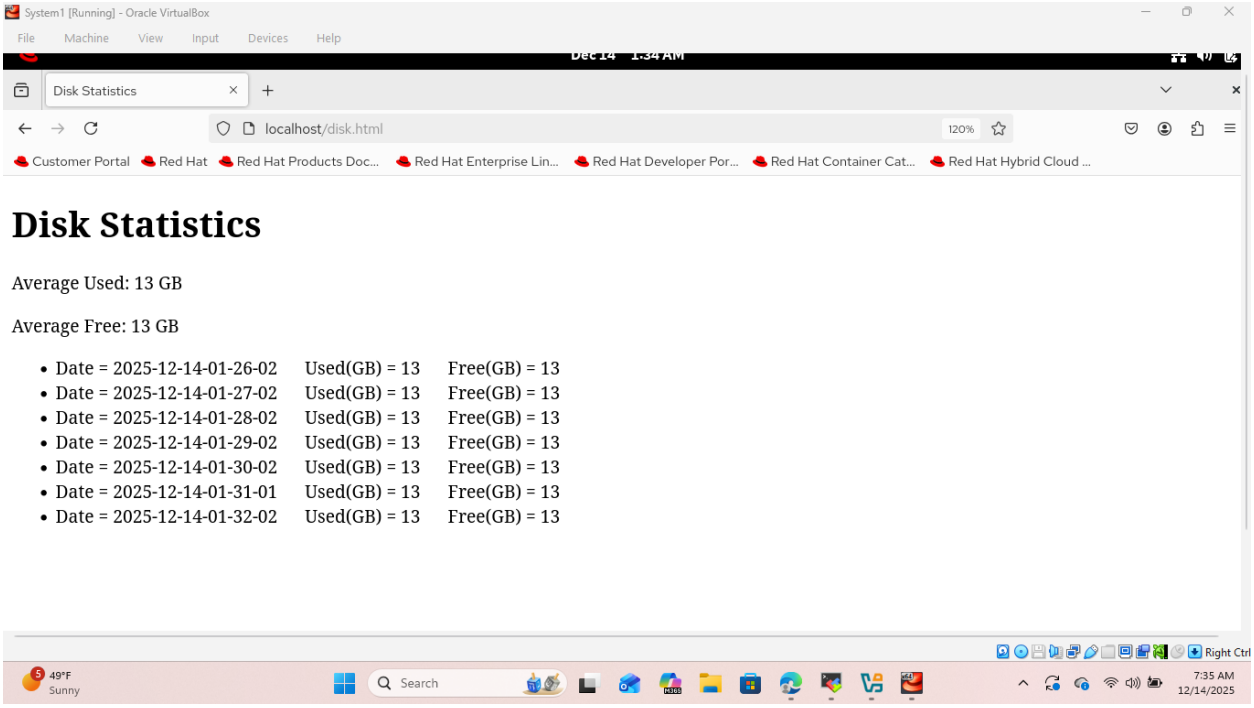
- **CPU Ideal**



- **Memory Usage**



- **Disk Usage**


System1 [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Dec 14 1:34 AM
Disk Statistics
localhost/disk.html
120%
Customer Portal
Red Hat
Red Hat Products Doc...
Red Hat Enterprise Lin...
Red Hat Developer Por...
Red Hat Container Cat...
Red Hat Hybrid Cloud ...
Disk Statistics
Average Used: 13 GB
Average Free: 13 GB
Date = 2025-12-14-01-26-02 Used(GB) = 13 Free(GB) = 13
Date = 2025-12-14-01-27-02 Used(GB) = 13 Free(GB) = 13
Date = 2025-12-14-01-28-02 Used(GB) = 13 Free(GB) = 13
Date = 2025-12-14-01-29-02 Used(GB) = 13 Free(GB) = 13
Date = 2025-12-14-01-30-02 Used(GB) = 13 Free(GB) = 13
Date = 2025-12-14-01-31-01 Used(GB) = 13 Free(GB) = 13
Date = 2025-12-14-01-32-02 Used(GB) = 13 Free(GB) = 13
Right Ctrl
49°F
Sunny
Search
7:35 AM
12/14/2025