- **<u>Windows/Monitoring - Write a shell script that checks the current CPU utilization, Low Disk Space and sends an email alert if the utilization exceeds a certain threshold.</u>**

  - According to the mentioned, this script will have used in windows monitoring so I write it as a PowerShell script, we can sure write it as a shell script, but it will need additional step to run which is "WSL", to run shell scripts on windows.
  - The script parts are commented in the script itself to be easy to explain what I did for you.
  - Like what I did, we should to configure a Gmail address to use in SMTP which used in the script and also to test mail like what I did lsg.task@gmail.com , to save time . this link which I used to learn about this part of the script because I did not do it before with PowerShell. https://techexpert.tips/powershell/powershell-send-email-gmail/
  - I set the value of CPUThreshold = .25 only for testing, sure it might be 70 or above, according to what's we need.

```powershell
  # Set the threshold for CPU utilization
$CPUThreshold = .25

# Get the current CPU utilization
$CPUUtilization = Get-Counter -Counter "\Processor(_Total)\% Processor Time" | Select-Object -ExpandProperty CounterSamples | Select-Object -ExpandProperty CookedValue

# Check if the utilization is above the threshold
if ($CPUUtilization -gt $CPUThreshold) {

    # Get the current disk space
    $DiskSpace = Get-WmiObject Win32_LogicalDisk | Select-Object DeviceID, FreeSpace, Size

    # Create an email message with the details of CPU utilization and disk space
    $Message = "The current CPU utilization is $CPUUtilization%, which exceeds the threshold of
$CPUThreshold%.`n`n"

    foreach ($Disk in $DiskSpace) {

        # Calculate the percentage of free disk space
        $FreeSpacePercentage = [Math]::Round(($Disk.FreeSpace/$Disk.Size)*100, 2)

        # Add a line to the message for each disk
        $Message += "Drive '$($Disk.DeviceID)' has $FreeSpacePercentage% free space remaining.`n"

    }

    # Send an email alert with the message , the server will mentioned by it's HostName
    $mycredentials = Get-Credential
Send-MailMessage -SmtpServer smtp.gmail.com -Port 587 -UseSsl -From lsg.task@gmail.com -To
mohamed.s.abdelmotlb@gmail.com -Subject "Message from $env:COMPUTERNAME"  -Body 'Dear SysAdmin ,
kindly be noted that the server which mentioned in the subject  has a High CPU utilization or Low
Disk Space , kindly check it ' -Credential $mycredentials
    }
```

Untitled1.ps1*   Untitled2.ps1*

```powershell
16      foreach ($Disk in $DiskSpace) {
17
18          # Calculate the percentage of free disk space
19          $FreeSpacePercentage = [Math]::Round(($Disk.FreeSpace/$Disk.Size)*100, 2)
20
21          # Add a line to the message for each disk
22          $Message += "Drive '$($Disk.DeviceID)' has $FreeSpacePercentage% free space remaining.`n"
23
24      }
25
26      # Send an email alert with the message , the server will mentioned by it's HostName
27      $mycredentials = Get-Credential
28      Send-MailMessage -SmtpServer smtp.gmail.com -Port 587 -UseSsl -F          tlb@gmail.com -Subject
29      }
```

Commands ✕

Modules: All ▾   Refresh

Name:

A:
Add-AppvClientConnectionGroup
Add-AppvClientPackage
Add-AppvPublishingServer
Add-AppxPackage
Add-AppxProvisionedPackage
Add-AppxVolume
Add-BCDataCacheExtension
Add-BitLockerKeyProtector
Add-BitsFile
Add-CertificateEnrollmentPolicyServer
Add-Computer
Add-Content
Add-DnsClientNrptRule
Add-DtcClusterTMMapping
Add-EtwTraceProvider
Add-History
Add-InitiatorIdToMaskingSet
Add-JobTrigger
Add-KdsRootKey
Add-LocalGroupMember
Add-Member
Add-MpPreference
Add-NetEventNetworkAdapter
Add-NetEventPacketCaptureProvider

cmdlet Get-Credential at command pipe...   ?   ✕

Supply values for the following parameters:

User name: lsg.task@gmail.com   ...
Password: ●●●●●●●●●●●●●●●●

OK   Cancel

```powershell
$DiskSpace = Get-WmiObject Win32_LogicalDisk | Select-Object Devic

# Create an email message with the details of CPU utilization and
$Message = "The current CPU utilization is $CPUUtilization%, which

foreach ($Disk in $DiskSpace) {

    # Calculate the percentage of free disk space
    $FreeSpacePercentage = [Math]::Round(($Disk.FreeSpace/$Disk.Size)*100, 2)

    # Add a line to the message for each disk
    $Message += "Drive '$($Disk.DeviceID)' has $FreeSpacePercentage% free space remaining.`n"

}

# Send an email alert with the message , the server will mentioned by it's HostName
$mycredentials = Get-Credential
Send-MailMessage -SmtpServer smtp.gmail.com -Port 587 -UseSsl -From lsg.task@gmail.com -To mohamed.s.abdelmotlb@gmail.com -Subject "Mess
}
cmdlet Get-Credential at command pipeline position 1
Supply values for the following parameters:
```

Run   Insert   Copy

Running script / selection. Press Ctrl+Break to stop. Press Ctrl+B to break into debugger.   Ln 391 Col 1   100%

≡ M Gmail   🔍 Search mail   ⚙   ❓ ⚙ ⚙ M

✎ Compose

📥 Inbox
⭐ Starred
🕐 Snoozed
▷ Sent
📄 Drafts
∨ More

1-100 of 234 ‹ ›

Primary   Promotions **1 new**   Social **1 new**
                 Jobot Alerts   LinkedIn

☐ 》 lsg.task   11:03 PM
     Message from DESKTOP-PO8HJJ6
     Dear SysAdmin , kindly be noted that the server which ... ☆

☐ 》 Souad, me, David 5   🖉 Feb 16
     LSG - Case Study
     Hi Mohamed, This is an opensource service called Moo... ☆

☐ 》 Jobot Alerts   Feb 16

Message from DESKTOP-PO8HJJ6 》 Inbox x 🖨 ⧉

Ⓘ lsg.task@gmail.com   11:03 PM (0 minutes ago) ☆ ↩ ⋮
   to me ▾

Dear SysAdmin , kindly be noted that the server which mentioned in the subject has a
High CPU utilization or Low Disk Space , kindly check it