

Automating system administration tasks – Part1

 michaelfirsov.wordpress.com/automating-system-administration-tasks-part1

September 15, 2017

In 2013 I wrote the article [The morning of a system administrator](#) where I had formulated the main questions to which – in my humble opinion – a system administrator should have the answers at the very beginning of his/her work day:

- 1) *Were there any unexpected server reboots?*
- 2) *Is there any server that lacks of a disk space?*
- 3) *What are the sizes of my MS SQL Server databases?*
- 4) *Were there any connectivity problems with our Internet connection?*
- 5) *Were there any Active Directory modifications?*
- 6) *Were there any password resets?*

As the years past, I added more and more questions to the list above and one day I realized it would be pertinent to divide the questions into several categories: one for each of the “computer field” administrators usually deal with:

I Windows Server

II Audit

III SQL Server

IV Exchange Server

Considering I want to have these answers by the time I enter the office, the main means of getting the corresponding information must be the scripts that run according to their schedule in the Task Scheduler and send me reports via an email. Alerts in the Performance Monitor can send notifications when a certain condition is met. In this four-part series I'd like to offer the methodology for the overall monitoring of the whole server infrastructure so that any administrator may get all necessary information as fast as possible – he/she would only need to read the reports sent as the email attachments by various scripts.

I Windows Server

The questions:

1. **Have nightly backup jobs completed successfully?**

2. **Were there any connectivity problems with our Internet connection?**
3. **Were there any unexpected server reboots?**
4. **Is there any server that lacks of a disk space?** – the question from the old article now should read as follows:
Have any defined server alerts fired since yesterday?
5. **How well does the OS perform today (or did yesterday)?**

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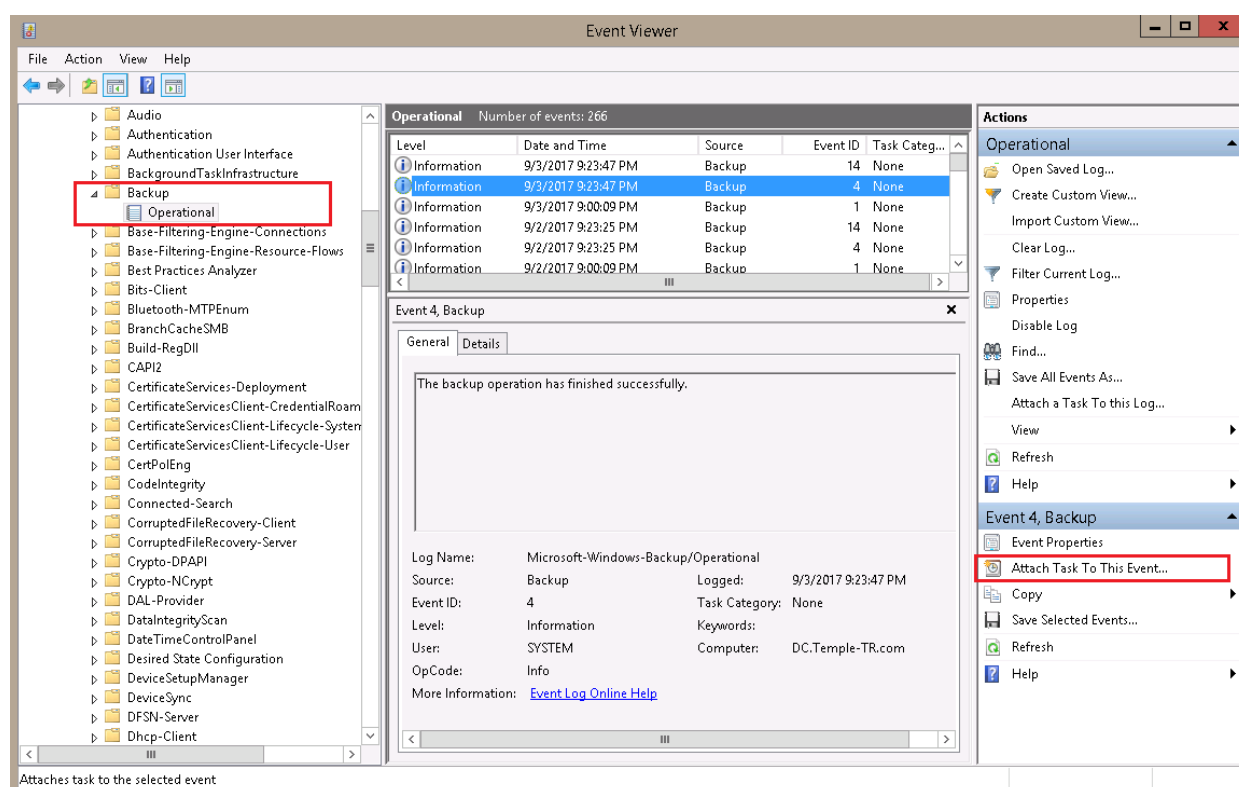
Report this adPrivacy

Throughout this four-part series I will post lots of *cmd*, *ps1* and *vbs* scripts saved as *docx* documents -wordpress.com would not allow to upload *txt/ps1/vbs* files – so please rename the docx files accordingly before use.

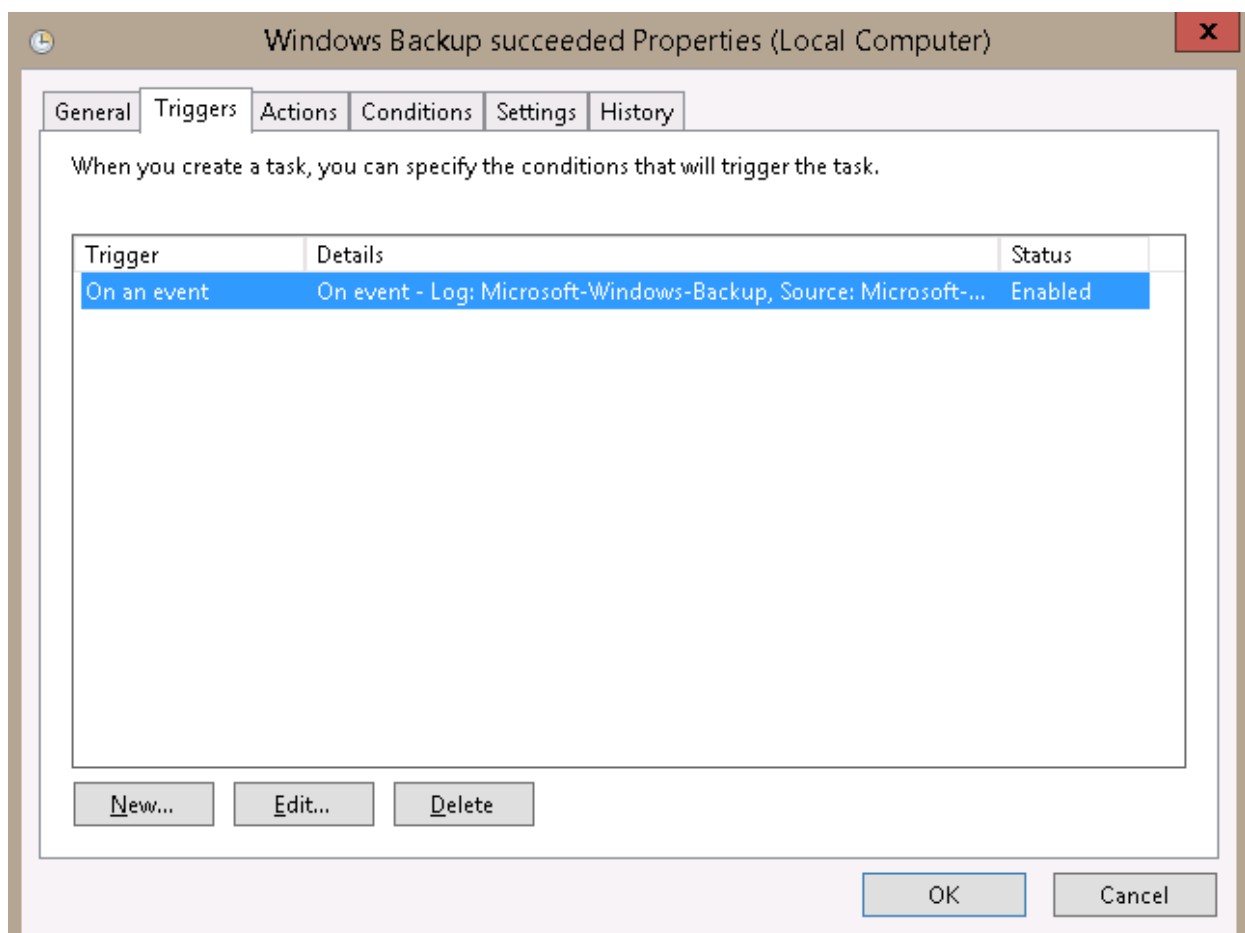
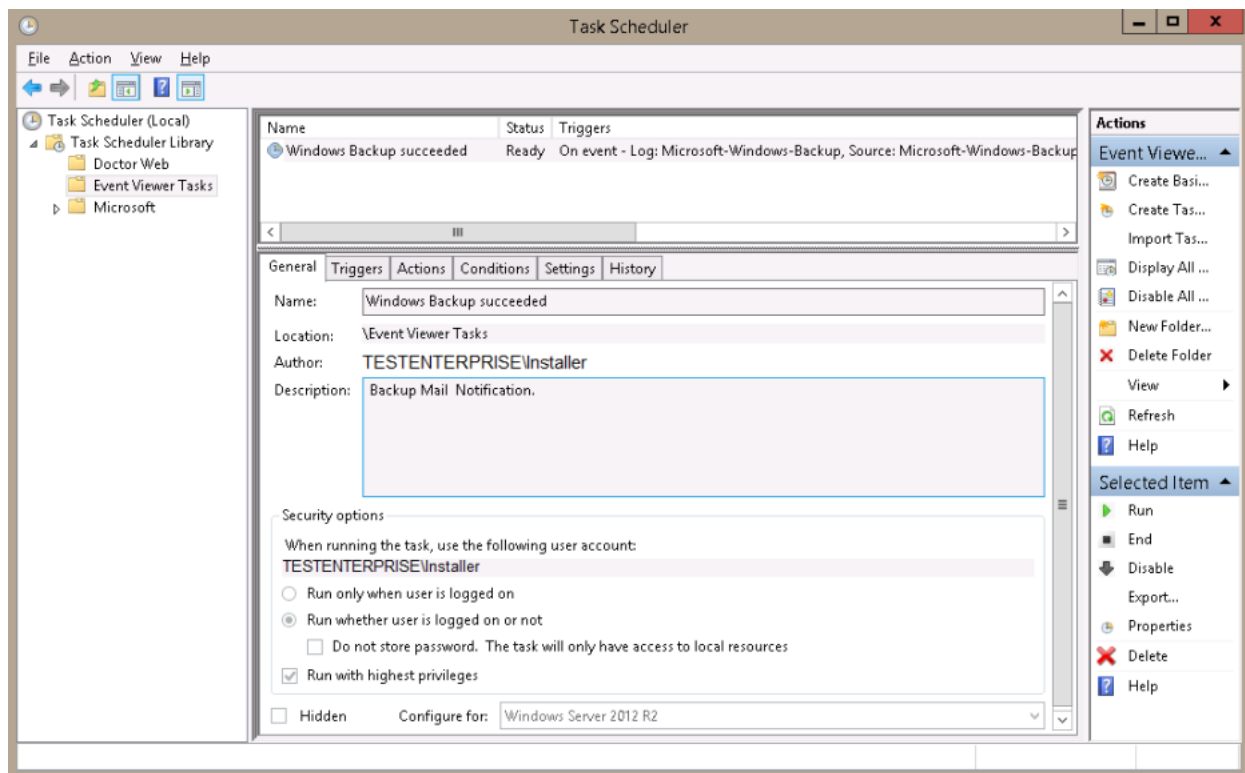
Some one-line *cmd* scripts are not published as the *docx* files because their content is fully visible as the screenshots.

The answers:

1) To get the email reports upon completion of the backup jobs I have attached the task **Windows Backup Succeeded** to the event 4 from the **Microsoft-Windows-Backup-Operational** log:



The task:



Edit Trigger

Begin the task: On an event

Settings

☒ Basic

Log: Microsoft-Windows-Backup/Operational

Source: Backup

Event ID: 4

Advanced settings

☐ Delay task for: 15 minutes
 ☐ Repeat task every: 1 hour for a duration of: 1 day
 ☐ Stop all running tasks at end of repetition duration
 ☐ Stop task if it runs longer than: 3 days
 ☐ Activate: 9/ 4/2017 12:12:15 PM ☐ Synchronize across time zones
 ☐ Expire: 9/ 4/2018 12:12:15 PM ☐ Synchronize across time zones
 ☒ Enabled

Windows Backup succeeded Properties (Local Computer)

General Triggers **Actions** Conditions Settings History

When you create a task, you must specify the action that will occur when your task starts.

Action	Details
Start a program	C:\DISTR\PS\MAIL-DC.cmd

Windows Backup succeeded Properties (Local Computer)

General Triggers Actions **Conditions** Settings History

Specify the conditions that, along with the trigger, determine whether the task should run. The task will not run if any condition specified here is not true.

Idle

☐ Start the task only if the computer is idle for: 10 minutes

Wait for idle for: 1 hour

☒ Stop if the computer ceases to be idle

☐ Restart if the idle state resumes

Power

☐ Start the task only if the computer is on AC power

☒ Stop if the computer switches to battery power

☐ Wake the computer to run this task

Network

☐ Start only if the following network connection is available:

Any connection

OK Cancel

Windows Backup succeeded Properties (Local Computer)

General Triggers Actions Conditions **Settings** History

Specify additional settings that affect the behavior of the task.

☒ Allow task to be run on demand

☒ Run task as soon as possible after a scheduled start is missed

☒ If the task fails, restart every: 1 hour

Attempt to restart up to: 3 times

☒ Stop the task if it runs longer than: 1 hour

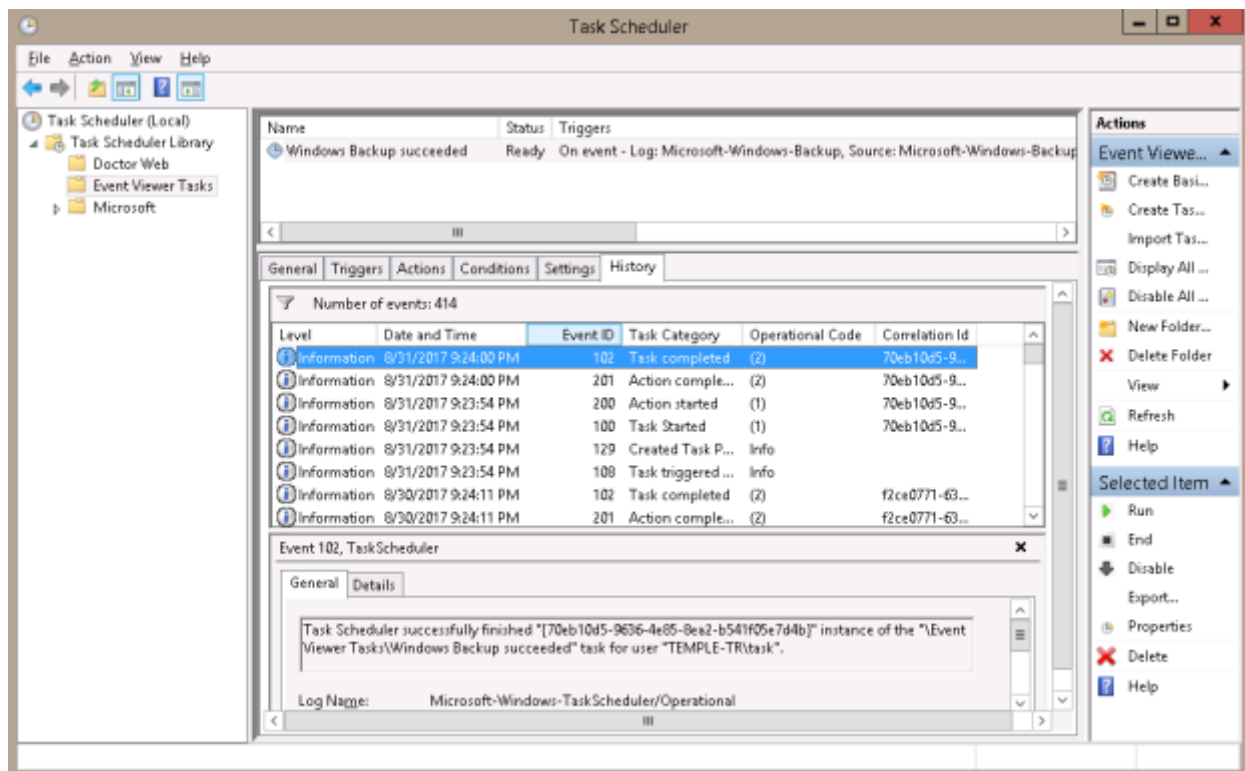
☒ If the running task does not end when requested, force it to stop

☐ If the task is not scheduled to run again, delete it after: 30 days

If the task is already running, then the following rule applies:

Run a new instance in parallel

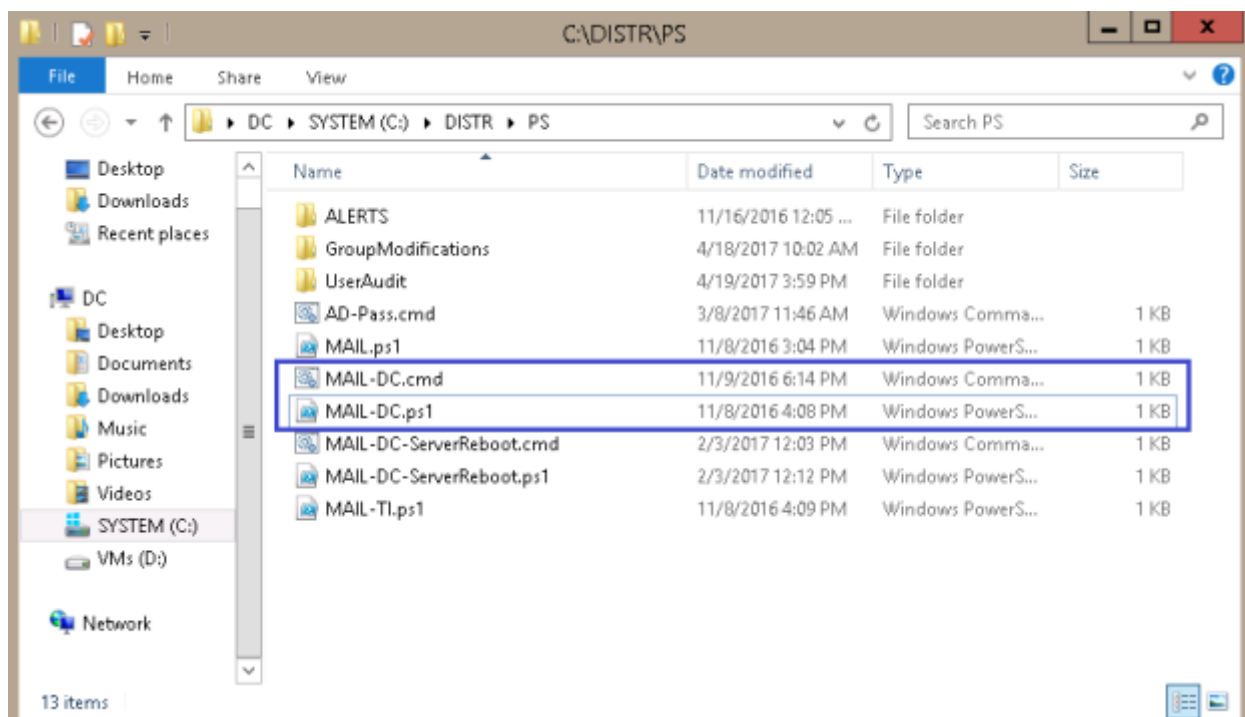
OK Cancel

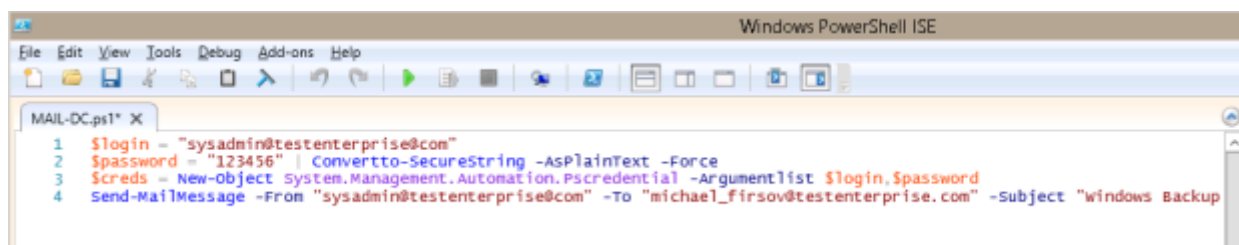
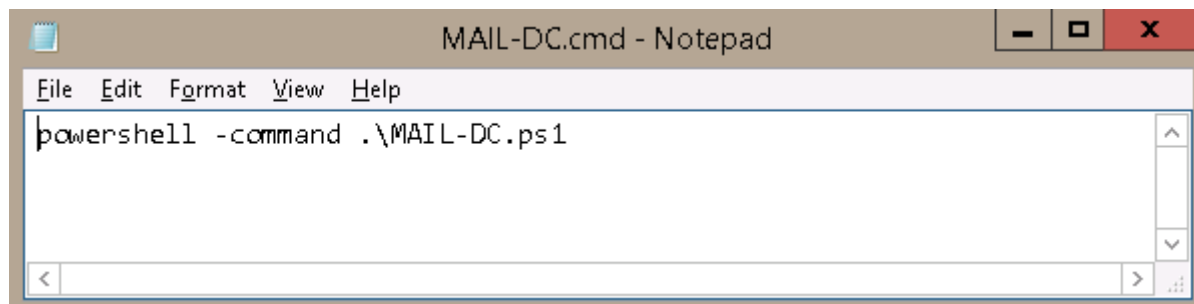


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The scripts (I use `.cmd` script on the **Actions** tab of the task to run the corresponding same-titled `.ps1` script):

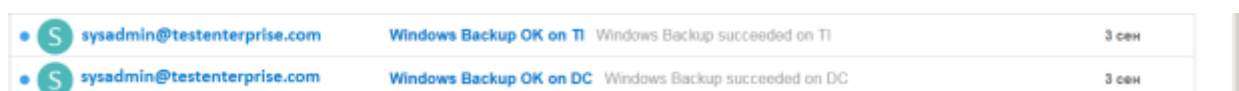




Mail-DC.ps1 – Mail-DC.ps1

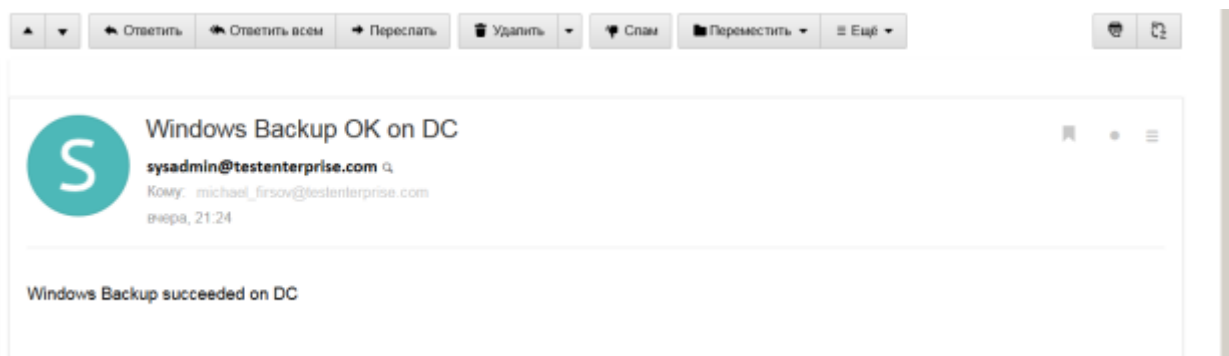
```
$login = "sysadmin@testenterprise.com"
$password = "123456" | Convertto-SecureString -AsPlainText -Force
$creds = New-Object System.Management.Automation.Pscredential -Argumentlist $login,$password
Send-MailMessage -From "sysadmin@testenterprise.com" -To "michael_firsov@testenterprise.com"
-Subject " Windows Backup OK on DC" -Body "Windows Backup succeeded on DC" -SmtpServer
mail.testenterprise.com -Port 25 -Credential $creds
```

The resulting email notification (each server will require its own the task/script, of course):



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2) Internet availability check

Internet.vbs script checks whether the internet connection is available by continuously pinging the ip of our ISP's gateway (it, of course, may be any other host you choose to monitor): in case one of the pings is lost it makes up to two additional checks and if all three consecutive ping attempts have been unsuccessful it will log the corresponding record to the *Internet.txt* file and send it to the email address defined in the script. This

Internet.txt file will also serve as the internet availability log since any interruptions in the internet availability will be recorded in this single file and an administrator may easily know later when the internet channel was not functioning.

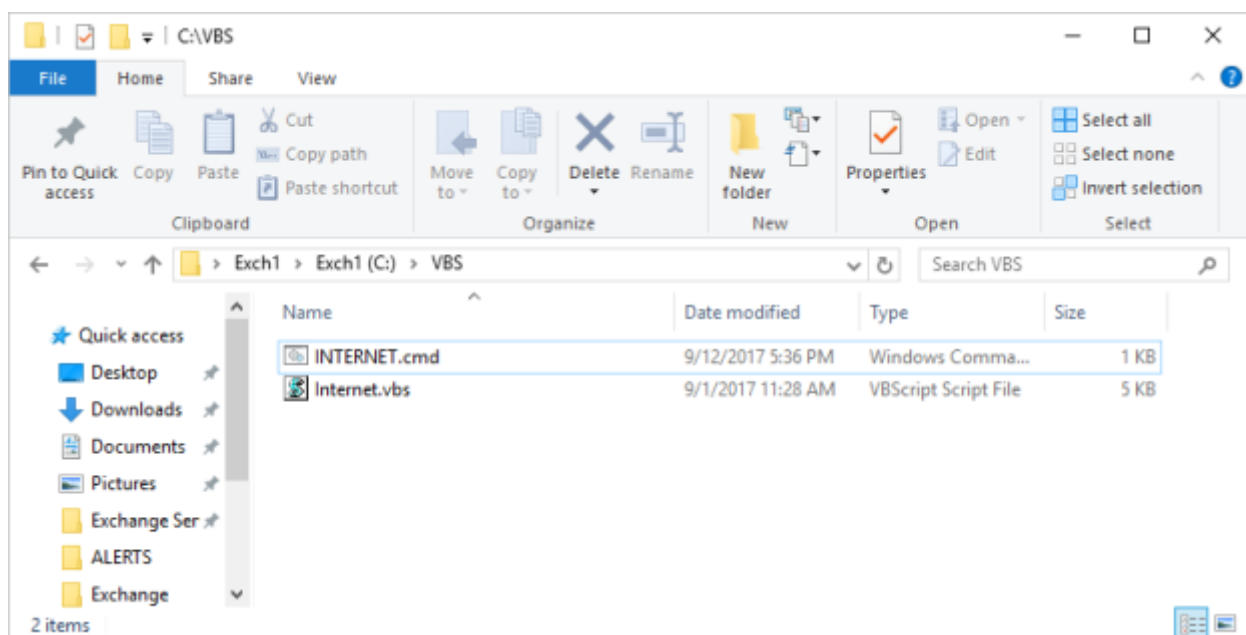
Internet.vbs – [Internet-vbs](#)

Please set the **StrTarget** field in the downloaded script to the ip of some host on Internet you'd like to serve as a monitor of the availability of your internet channel (instead of *a.b.c.d*) and the **strDirectory** field to the folder you'd like the Internet.txt file to be placed in. This script will be pinging this host each **120000** milliseconds by default (=120 seconds or 2 minutes) – the following parameter lets you configure it as you like:

WScript.Sleep 120000 'Frequency of polling.

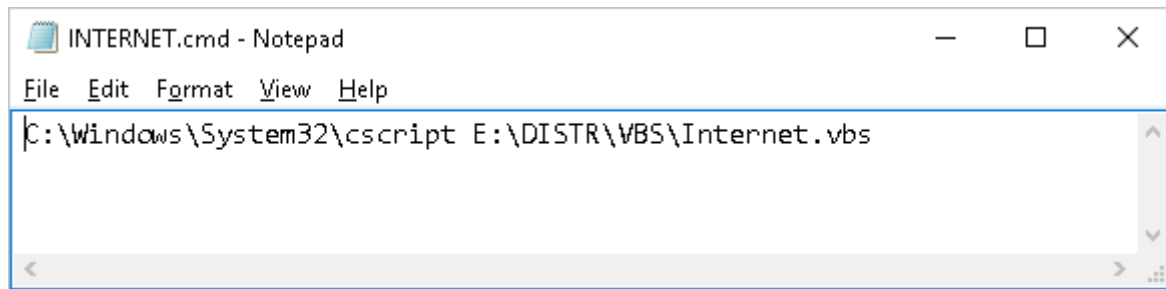
Once one of the ping attempts fails (no reply is received) the script tries to ping the monitored host for the second time after the 30 seconds delay by default, and after another 30 seconds it makes the third attempt – this total 60 seconds worth pause should help avoid the intermittent network failures. If all the three ping attempts fail then the script writes the line into INTERNET.txt file and sends it to the configured mail recipient (please configure all e-mail settings in the script according to your needs!).

The script files:

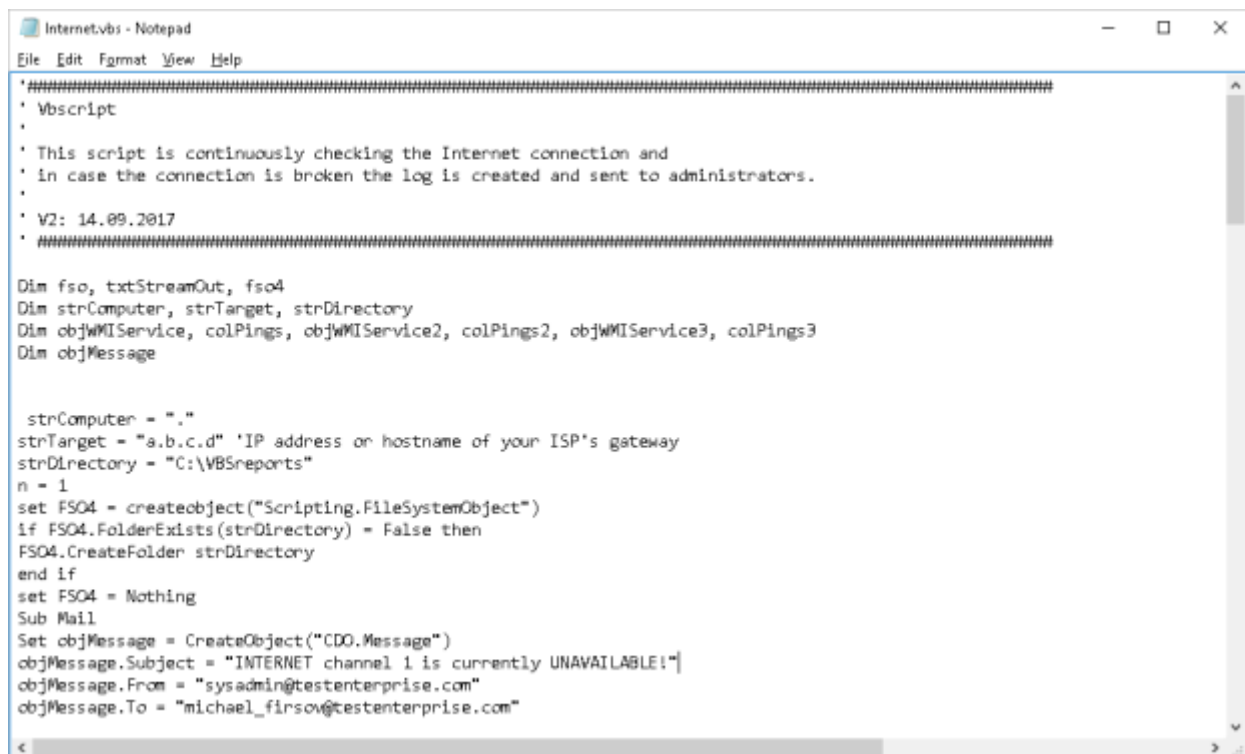


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```
INTERNET.cmd - Notepad
File Edit Format View Help
C:\Windows\System32\cscript E:\DISTR\VBS\Internet.vbs
```



```
Internet.vbs - Notepad
File Edit Format View Help
'#####
' Vbscript
'
' This script is continuously checking the Internet connection and
' in case the connection is broken the log is created and sent to administrators.
'
' V2: 14.09.2017
' #####

Dim fso, txtStreamOut, fso4
Dim strComputer, strTarget, strDirectory
Dim objWMIService, colPings, objWMIService2, colPings2, objWMIService3, colPings3
Dim objMessage

strComputer = "."
strTarget = "a.b.c.d" 'IP address or hostname of your ISP's gateway
strDirectory = "C:\VBSreports"
n = 1
set FSO4 = createobject("Scripting.FileSystemObject")
if FSO4.FolderExists(strDirectory) = False then
FSO4.CreateFolder strDirectory
end if
set FSO4 = Nothing
Sub Mail
Set objMessage = CreateObject("CDO.Message")
objMessage.Subject = "INTERNET channel 1 is currently UNAVAILABLE!"
objMessage.From = "sysadmin@testenterprise.com"
objMessage.To = "michael_firsov@testenterprise.com"
```

You can run any *.vbs* scripts from scheduled tasks directly – without a *.cmd* file with the **cscript** command-line program I'm currently using – I just prefer to start the *vbs* scripts that run continuously by means of the **cscript** command: in this case in order to stop the script in the **Task Manager** I should stop the **cscript** or Windows Console Host process:

Диспетчер задач Windows

Файл Параметры Вид Справка

Приложения | Процессы | Службы | Быстродействие | Сеть | Пользователи

Имя образа	Пользователь	ЦП	Память (...)	Описание
alg.exe	LOCAL SERVICE	00	1 600 КБ	Служба шлюза уровня приложения
cmd.exe	task	00	1 056 КБ	Обработчик команд Windows
cmd.exe	administrator	00	1 012 КБ	Обработчик команд Windows
conhost.exe	administrator	00	1 172 КБ	Окно консоли узла
conhost.exe	task	00	1 056 КБ	Окно консоли узла
csrss.exe	task	00	4 488 КБ	Microsoft® Console Based Script Host
csrss.exe	система	00	2 276 КБ	Процесс исполнения клиент-сервер
csrss.exe	система	00	1 376 КБ	Процесс исполнения клиент-сервер
csrss.exe	система	00	1 976 КБ	Процесс исполнения клиент-сервер
dns.exe	система	00	83 644 КБ	DNS-сервер (Domain Name System)
dwm.exe	administrator	00	1 528 КБ	Диспетчер окон рабочего стола
explorer.exe	administrator	00	77 576 КБ	Проводник
iashost.exe	NETWORK SERVICE	00	5 820 КБ	IAS Host
IPROSetMonitor.exe	система	00	1 484 КБ	Intel® PROSet Monitoring Service
iusb3mon.exe *32	administrator	00	1 452 КБ	iusb3mon
LogonUI.exe	система	00	9 340 КБ	Windows Logon User Interface Host
lsass.exe	система	00	7 216 КБ	Local Security Authority Process
lsm.exe	система	00	2 528 КБ	Служба диспетчера локальных сеансов
mmc.exe	administrator	00	9 428 КБ	Консоль управления (MMC)
mmc.exe	administrator	00	6 940 КБ	Консоль управления (MMC)
mmc.exe	administrator	00	19 396 КБ	Консоль управления (MMC)
mmc.exe	administrator	00	16 096 КБ	Консоль управления (MMC)
msdtc.exe	NETWORK SERVICE	00	2 992 КБ	Служба координатора распределенных транзакций
mstsc.exe	administrator	00	14 124 КБ	Подключение к удаленному рабочему столу
rdpclip.exe	administrator	00	2 140 КБ	Монитор буфера обмена RDP
rundll32.exe	система	00	5 452 КБ	Хост-процесс Windows (Rundll32)
rundll32.exe	installer	00	5 240 КБ	Хост-процесс Windows (Rundll32)
rundll32.exe	система	00	5 432 КБ	Хост-процесс Windows (Rundll32)
services.exe	система	00	4 912 КБ	Приложение служб и контроллеров

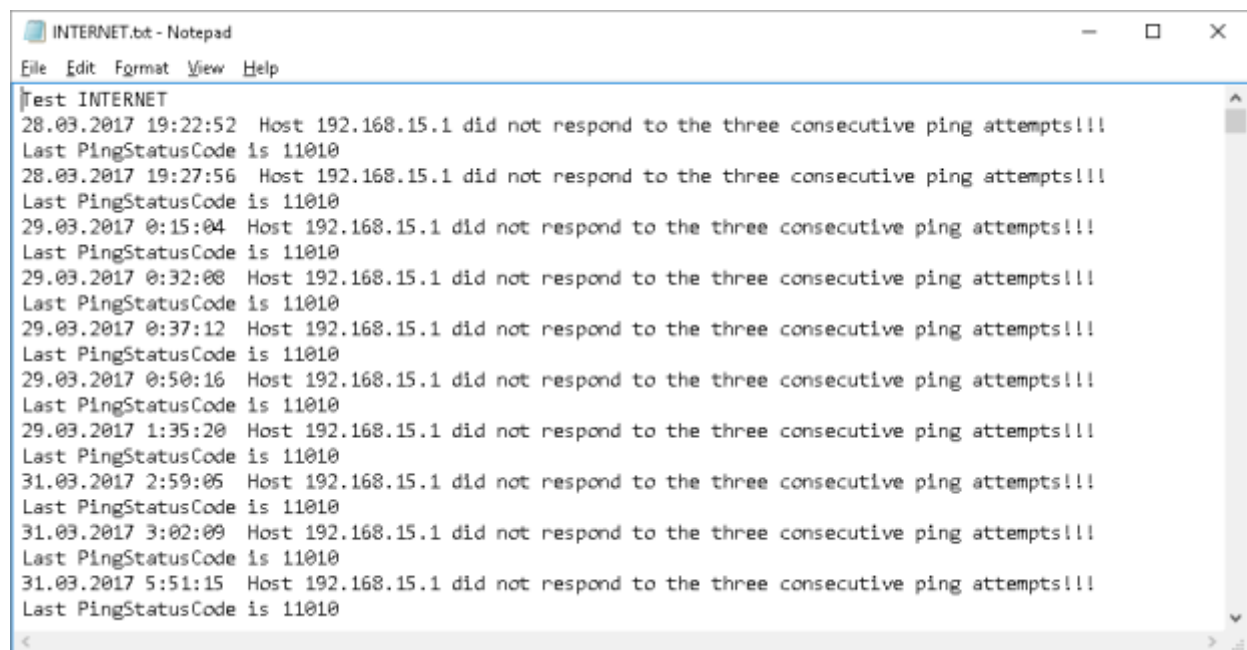
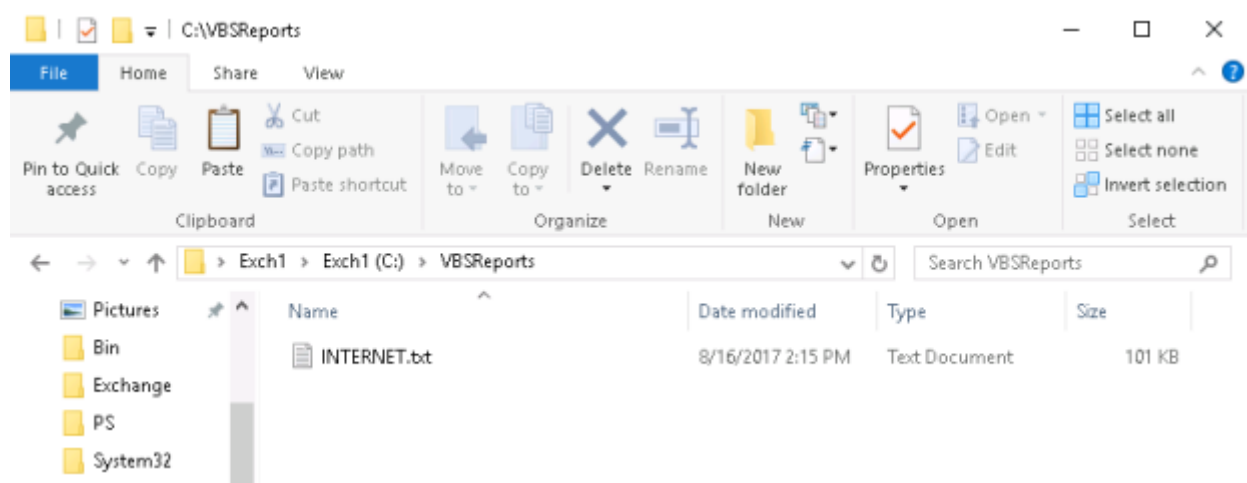
☒ Отображать процессы всех пользователей

Завершить процесс

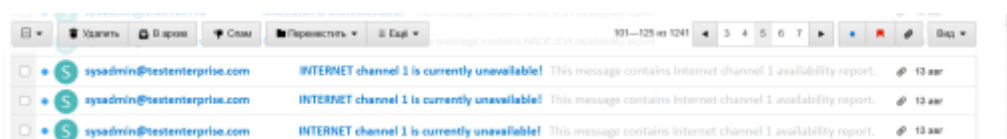
Процессов: 63 Загрузка ЦП: 2% Физическая память: 13%

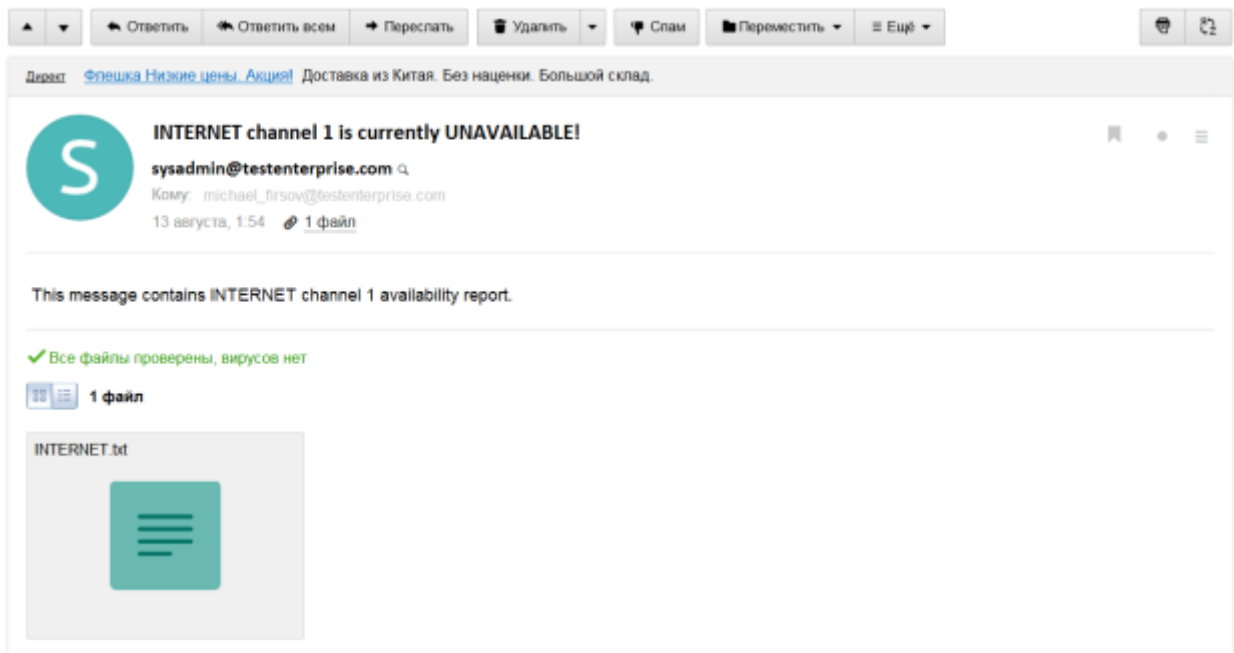
Task Manager		
File Options View		
Processes Performance Users Details Services		
Name	10% CPU	85% Memory
> Service Host: Remote Procedure Call (2)	0%	7.2 MB
IIS Worker Process	0%	73.6 MB
> Microsoft.Exchange.UM.CallRouter.exe	0%	44.4 MB
Windows host process (Rundll32)	0%	17.5 MB
> sftracing.exe	0%	5.1 MB
> Service Host: Local Service (6)	0%	8.8 MB
IIS Worker Process	0%	99.0 MB
EdgeTransport.exe	0%	193.2 MB
> Microsoft.Exchange.Directory.TopologyService.exe	0%	41.8 MB
> MSExchangeFrontendTransport.exe	0%	136.6 MB
> Microsoft Filtering Management Service	0%	4.5 MB
IIS Worker Process	0%	160.9 MB
> Service Host: Local System (16)	0%	41.6 MB
Windows Start-Up Application	0%	0.7 MB
Windows Session Manager	0%	0.3 MB
Console Window Host	0%	4.7 MB
Windows Logon Application	0%	1.2 MB
> Windows License Monitoring Service	0%	0.5 MB
> smbsvc	0%	1.7 MB
Shell Infrastructure Host	0%	3.1 MB
Services and Controller app	0%	4.8 MB
> Service Host: Virtual Machine Heartbeat (2)	0%	2.7 MB
> Service Host: UtcSvc	0%	4.9 MB
^ Fewer details End task		

The report file:



This e-mail message gets sent to my mailbox in case internet channel 1 is not available:

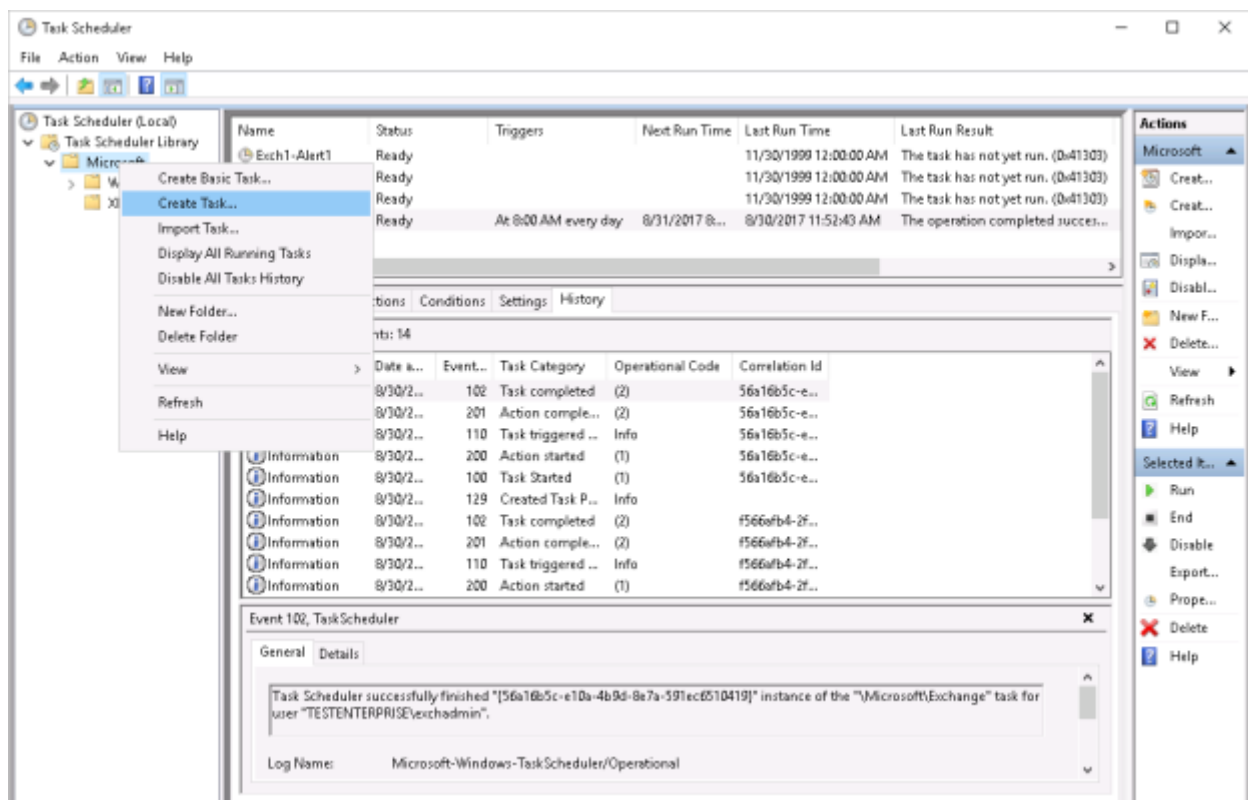




In fact the Internet.vbs script serves the two purposes:

1. the email message in an administrator's inbox informs him/her about the missing internet connection at the current time and
2. the file attached will let an administrator know how long the connection was unavailable and how often such interruptions occur

To be able to get the internet channel availability report any time during a day I create the corresponding **Internet Channel 1** scheduled task:



Create Task
 ✕

GeneralTriggersActionsConditionsSettings

Name:Internet Channel 1

Location:\Microsoft

Author:TESTENTERPRISE\ExchAdmin

Description:Internet Channel 1 availability report.

Security options

When running the task, use the following user account:

TESTENTERPRISE\ExchAdmin

Change User or Group...

☒ Run only when user is logged on

☐ Run whether user is logged on or not

☐ Do not store password. The task will only have access to local computer resources.

☒ Run with highest privileges

☐ Hidden

Configure for:Windows Vista™, Windows Server™ 2008

OK

Cancel

Create Task
 ✕

GeneralTriggersActionsConditionsSettings

When you create a task, you can specify the conditions that will trigger the task.

Trigger	Details	Status
At startup	At system startup	Enabled

New...

Edit...

Delete

OK

Cancel

Create Task

×

General

Triggers

Actions

Conditions

Settings

When you create a task, you must specify the action that will occur when your task starts.

Action	Details
Start a program	C:\VBS\INTERNET.cmd

<

>

New...

Edit...

Delete

OK

Cancel

Create Task

×

General

Triggers

Actions

Conditions

Settings

Specify the conditions that, along with the trigger, determine whether the task should run. The task will not run if any condition specified here is not true.

Idle

☐ Start the task only if the computer is idle for:

10 minutes

▼

Wait for idle for:

1 hour

▼

☒ Stop if the computer ceases to be idle

☐ Restart if the idle state resumes

Power

☐ Start the task only if the computer is on AC power

☐ Stop if the computer switches to battery power

☐ Wake the computer to run this task

Network

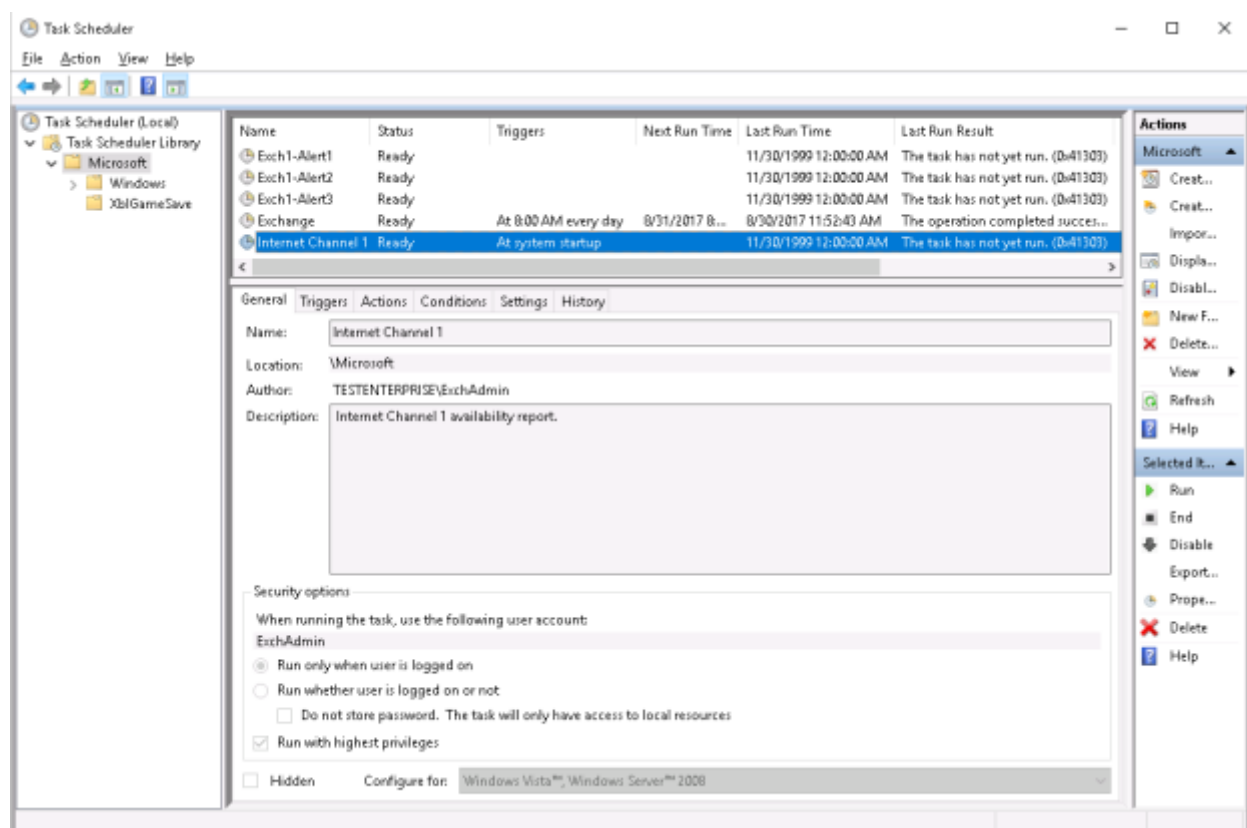
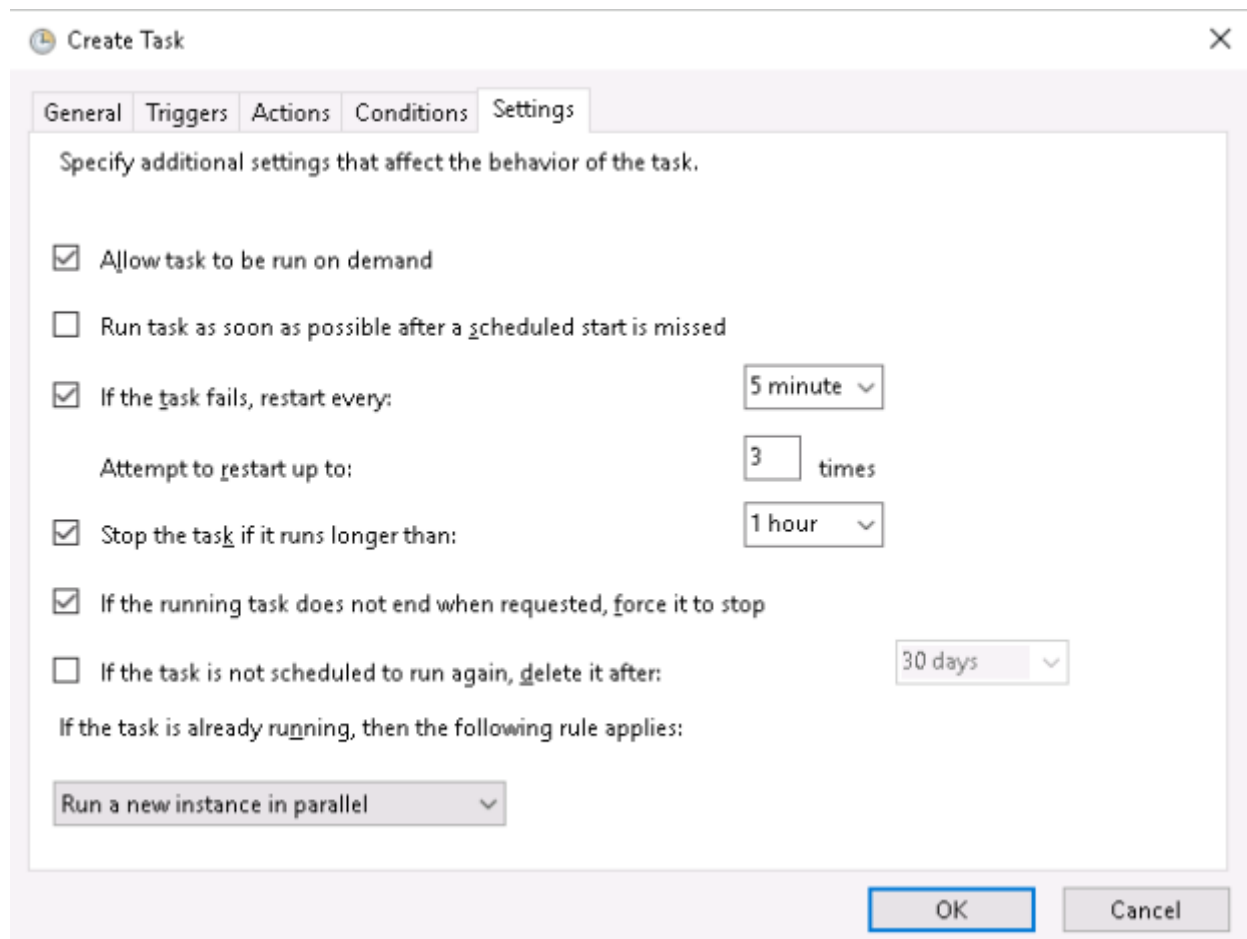
☐ Start only if the following network connection is available:

Any connection

▼

OK

Cancel



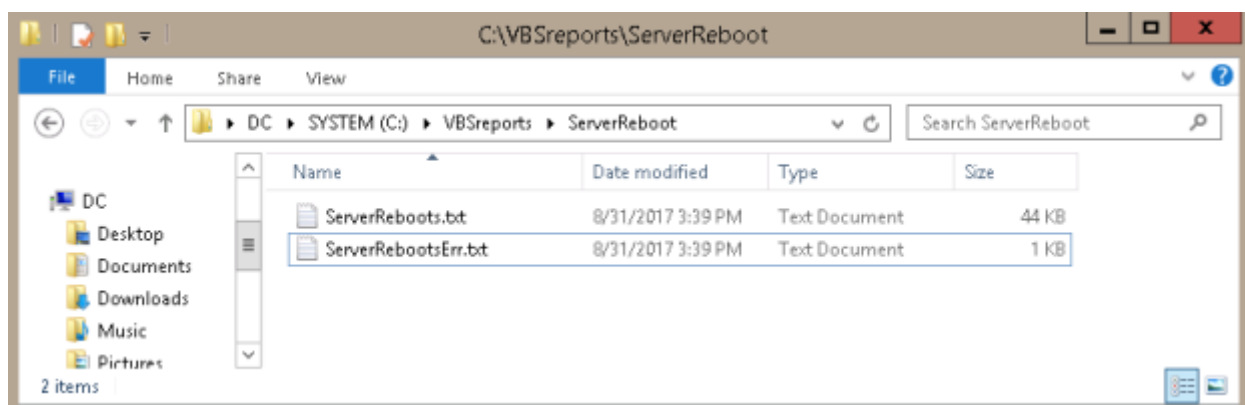
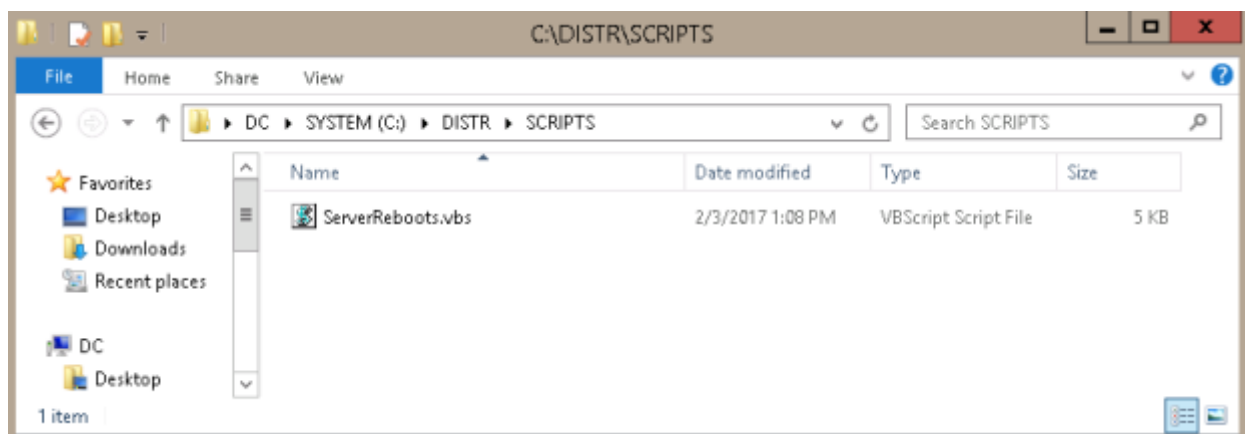
3) ServerReboots – ServerReboots-vbs

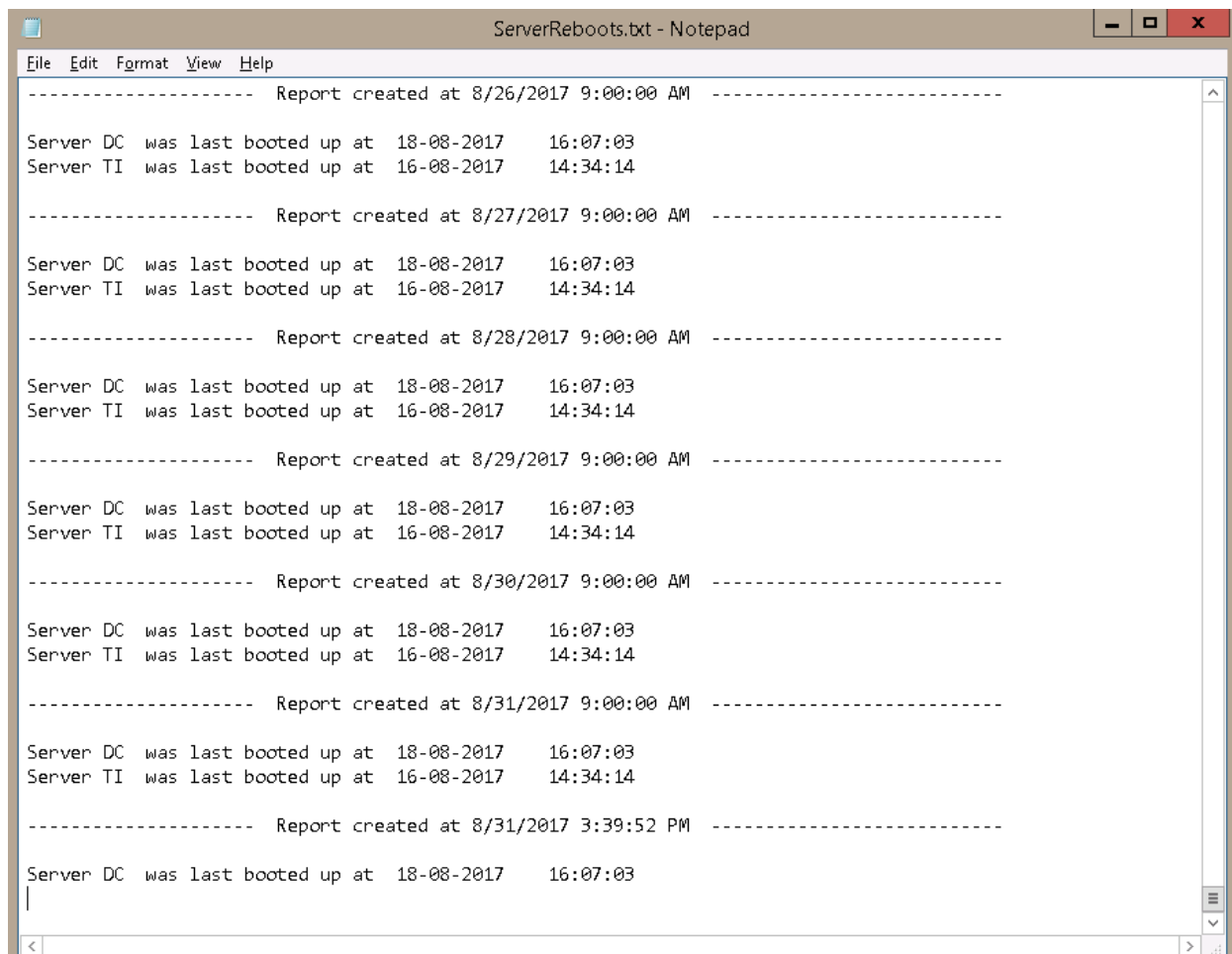
Please type in the names of your servers in the **Aservers** filed (**Aservers** = `Array("DC","TI")` by default).


```
ServerReboots.txt - Notepad
File Edit Format View Help

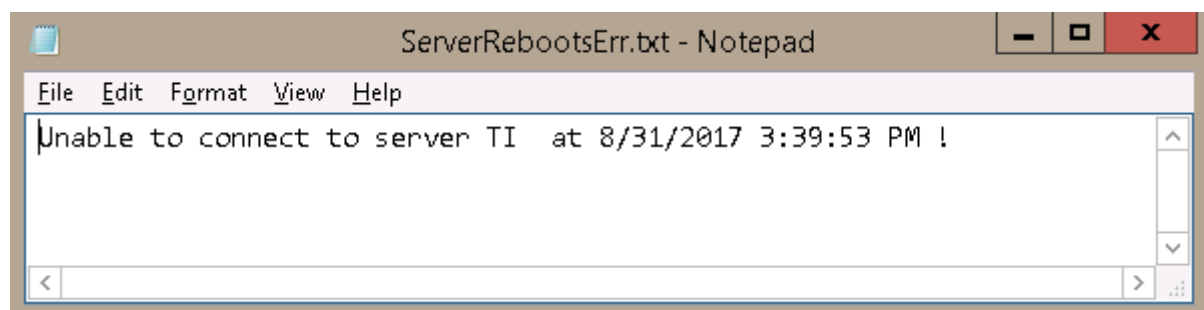
*Vbscript
* #####
*
* This script checks servers' 'LastBootUpTime' parameter, creates the log (ServerReboots.txt)
* and sends it to the email address.
* In case a server is unavailable the error log (ServerRebootsErr.txt) is created and is also sent.
*
* V1; 26.05.2010 Author: Michael Firsov
* #####
*Option Explicit
Dim d1, d2, d3, d4, d5, d6
Dim strDirectory
Dim Aservers
Dim fso, fso1, fso2, fso3
Dim objMessage
strDirectory = "C:\VBSreports\ServerReboot"
Aservers = Array("DC","TI")
'x = "Backup"
Sub Mail
Set objMessage = CreateObject("CDO.Message")
objMessage.Subject = "Server Reboot Report."
```

The script file:



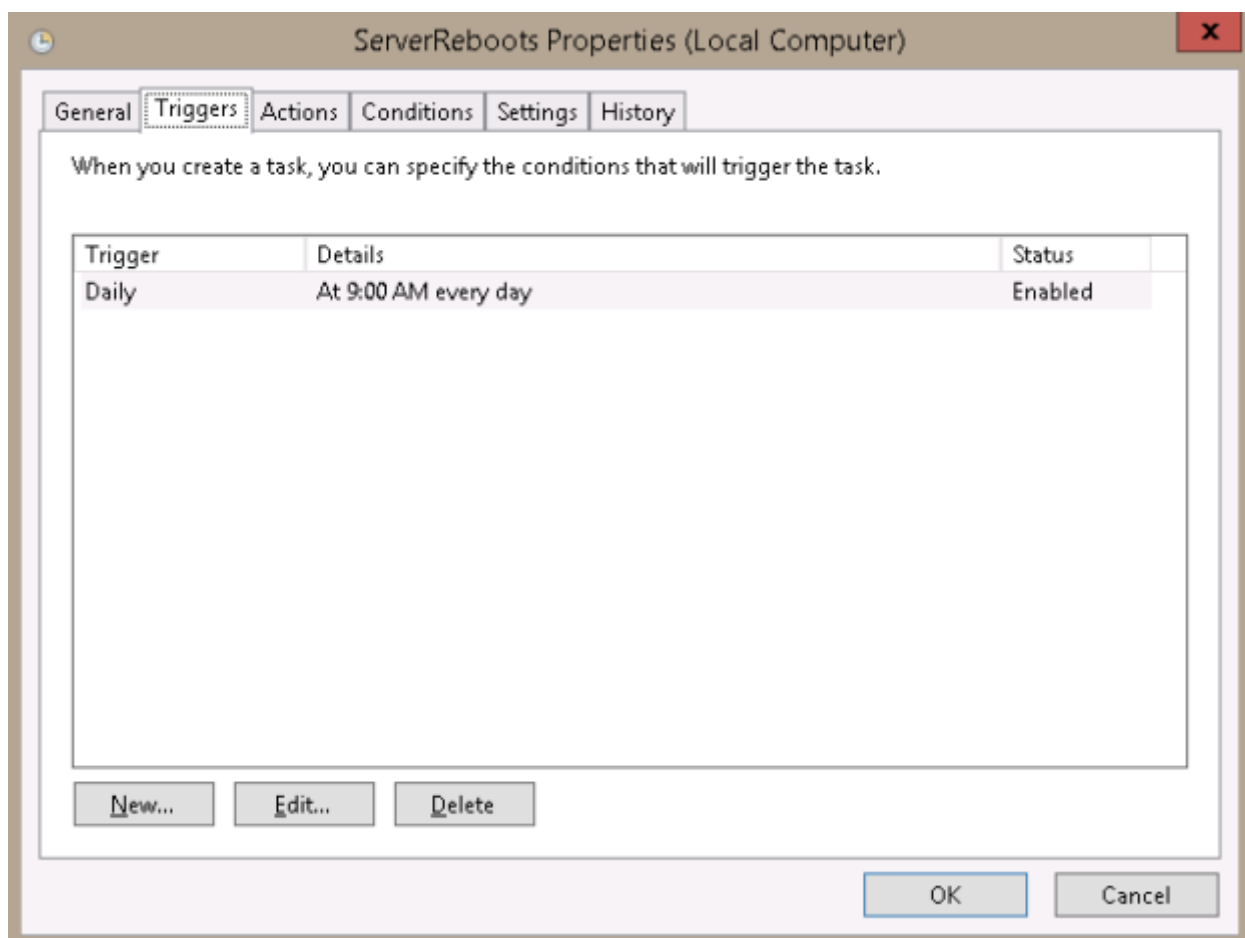
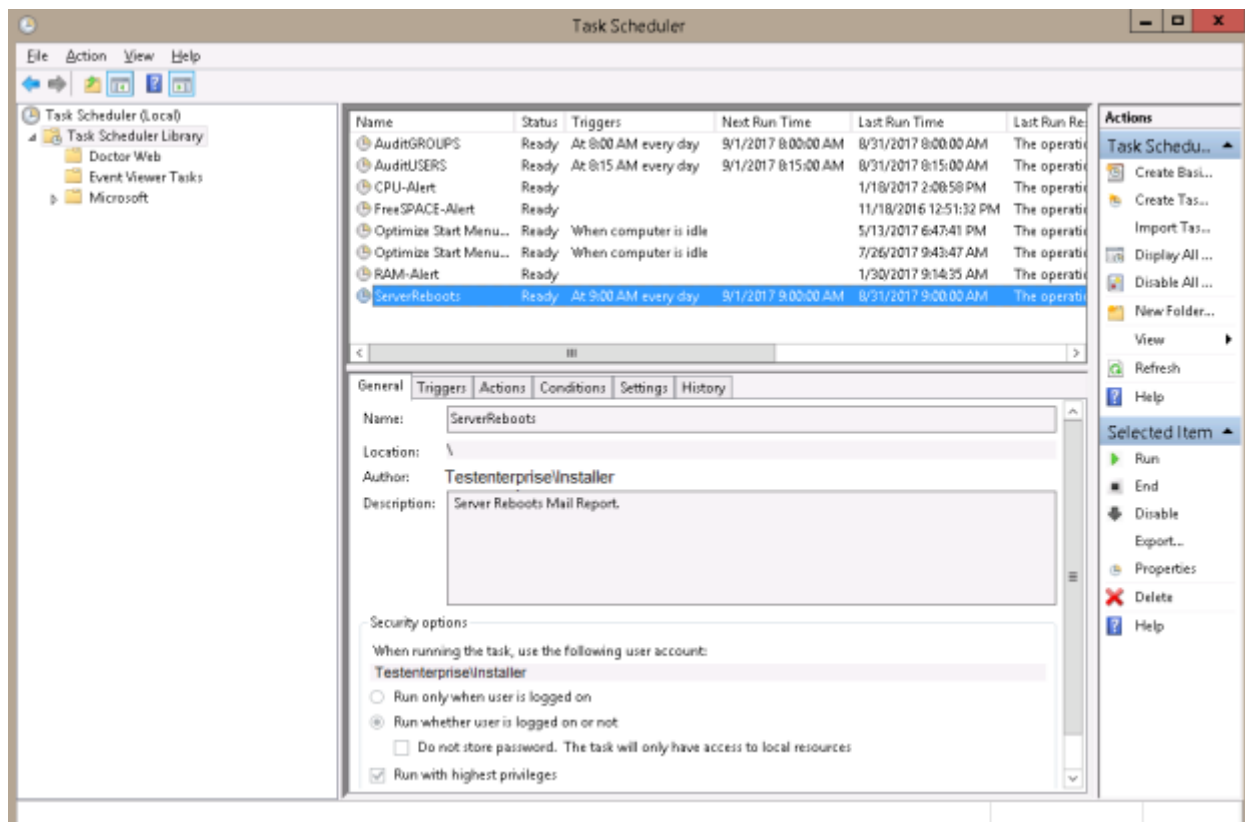


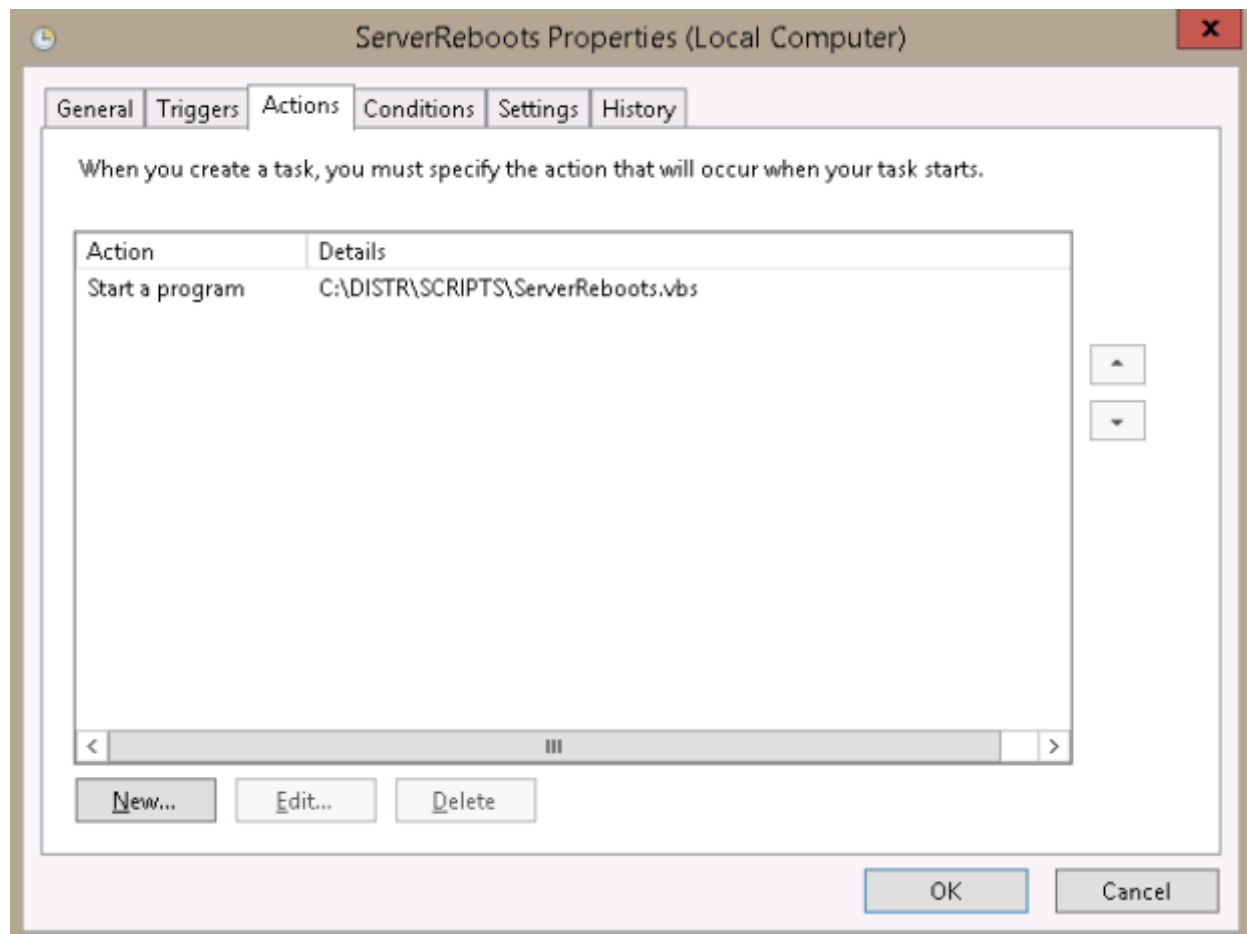
```
----- Report created at 8/26/2017 9:00:00 AM -----  
Server DC was last booted up at 18-08-2017 16:07:03  
Server TI was last booted up at 16-08-2017 14:34:14  
  
----- Report created at 8/27/2017 9:00:00 AM -----  
Server DC was last booted up at 18-08-2017 16:07:03  
Server TI was last booted up at 16-08-2017 14:34:14  
  
----- Report created at 8/28/2017 9:00:00 AM -----  
Server DC was last booted up at 18-08-2017 16:07:03  
Server TI was last booted up at 16-08-2017 14:34:14  
  
----- Report created at 8/29/2017 9:00:00 AM -----  
Server DC was last booted up at 18-08-2017 16:07:03  
Server TI was last booted up at 16-08-2017 14:34:14  
  
----- Report created at 8/30/2017 9:00:00 AM -----  
Server DC was last booted up at 18-08-2017 16:07:03  
Server TI was last booted up at 16-08-2017 14:34:14  
  
----- Report created at 8/31/2017 9:00:00 AM -----  
Server DC was last booted up at 18-08-2017 16:07:03  
Server TI was last booted up at 16-08-2017 14:34:14  
  
----- Report created at 8/31/2017 3:39:52 PM -----  
Server DC was last booted up at 18-08-2017 16:07:03  
|
```



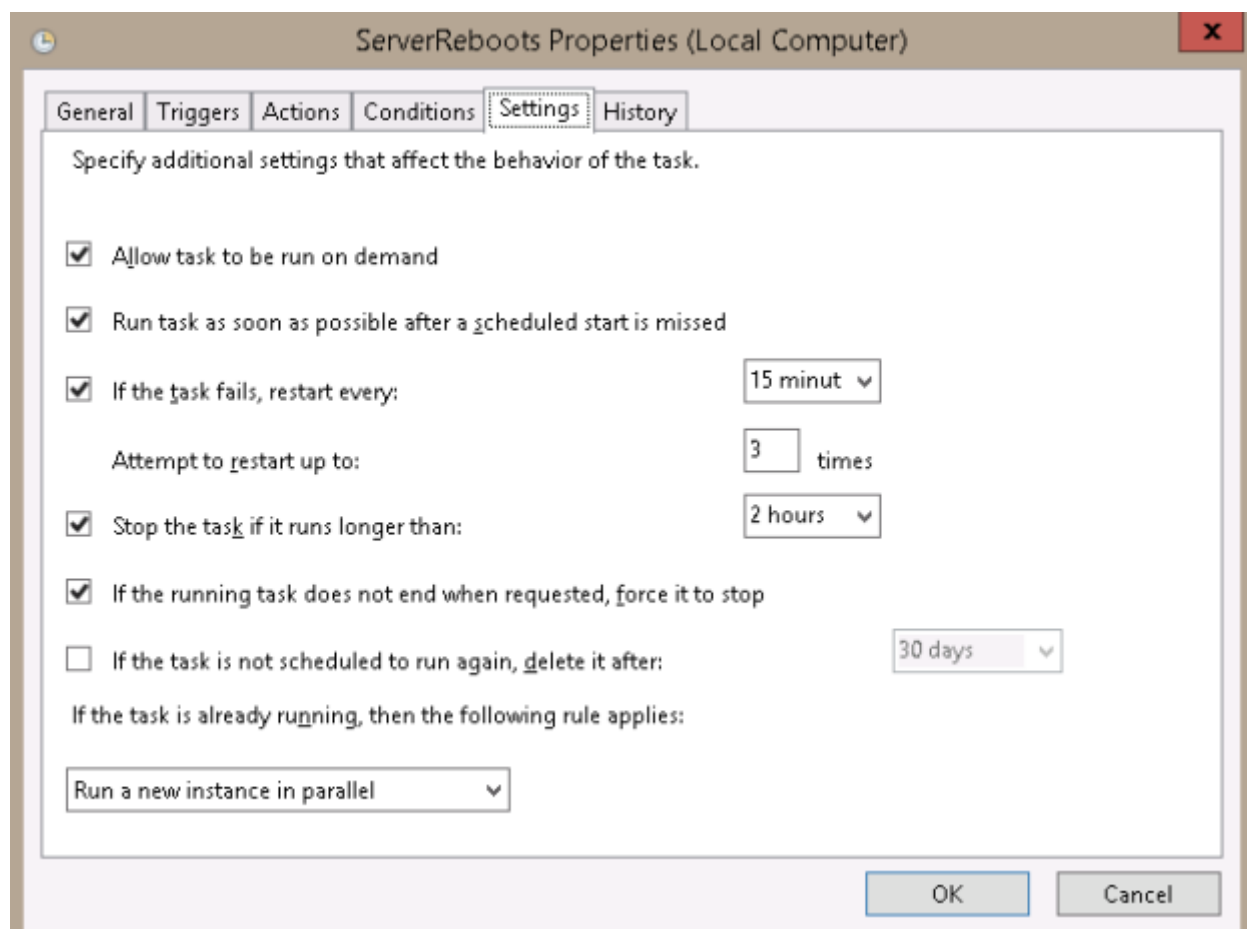
```
Unable to connect to server TI at 8/31/2017 3:39:53 PM !
```

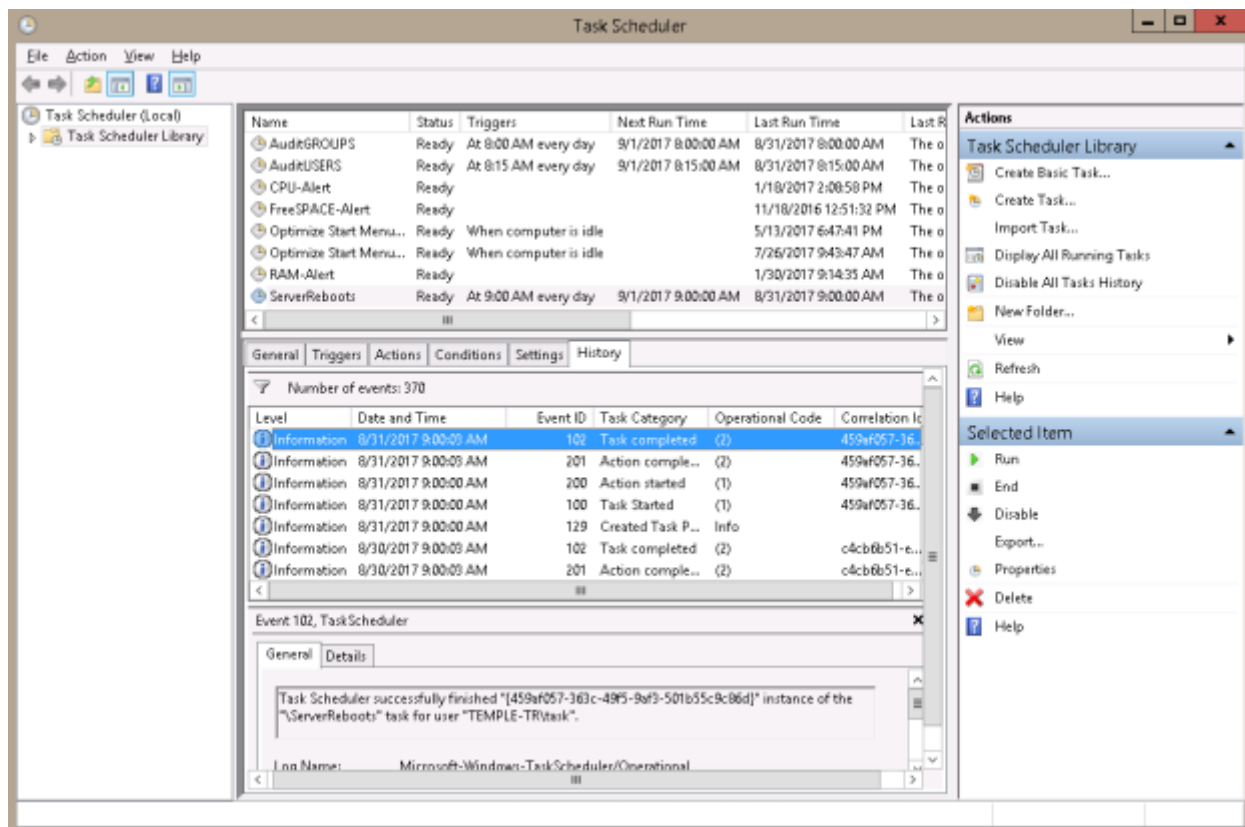
The task **ServerReboots**:





As **ServerReboots.vbs** is NOT going to be run continuously I start this script directly (withouth the corresponding *.cmd* file).



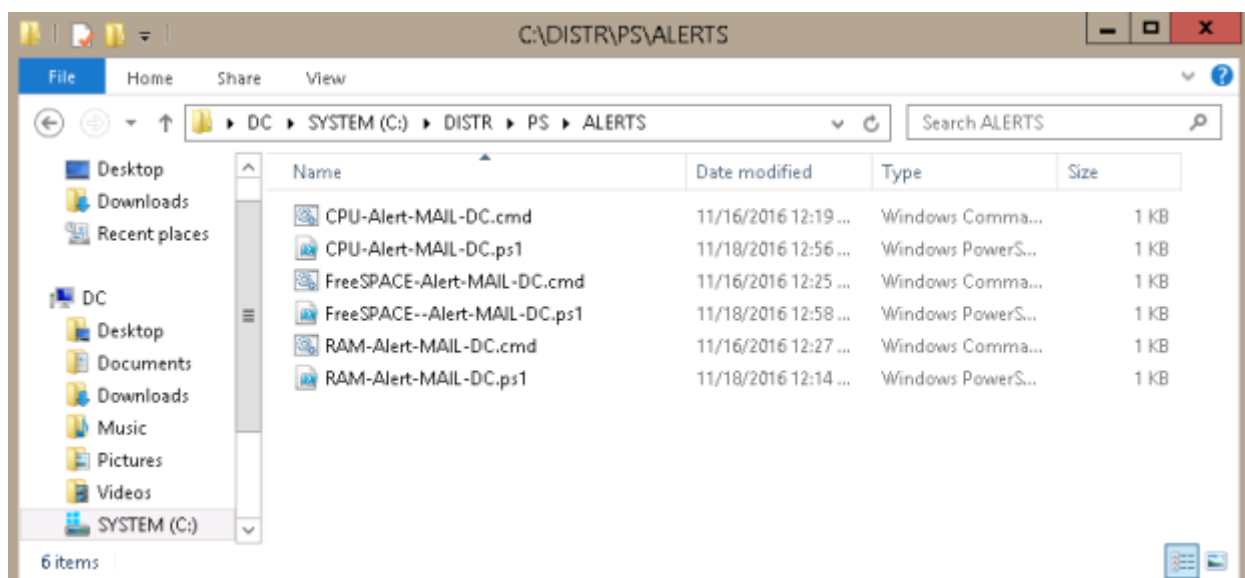


4. Alerts

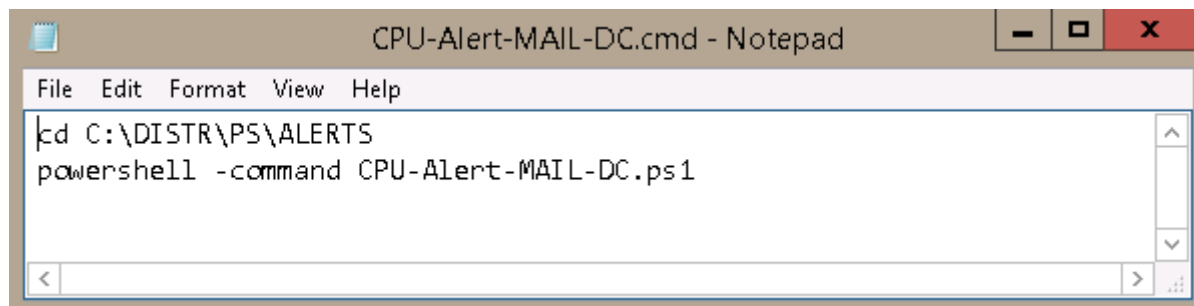
The scripts:

CPU-Alert-MAIL-DC.cmd

CPU-Alert-MAIL-DC-ps1
FreeSPACE-Alert-MAIL-DC.cmd
FreeSPACE-Alert-MAIL-DC-ps1
RAM-Alert-MAIL-DC.cmd
RAM-Alert-MAIL-DC-ps1



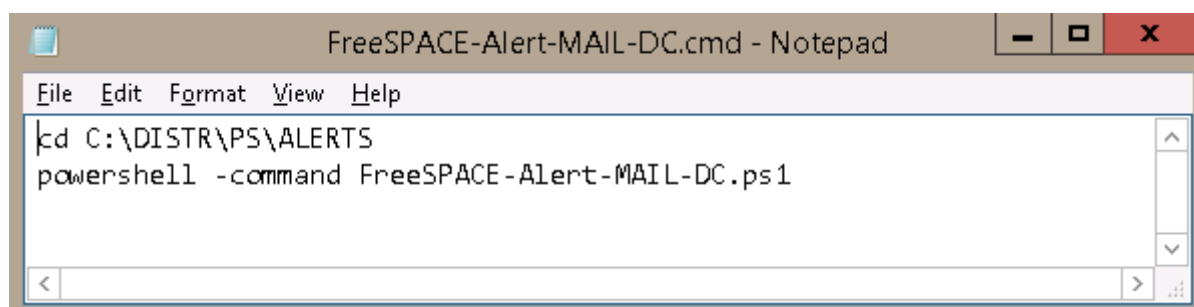
For example, *CPU-Alert-MAIL-DC.cmd* runs **CPU-Alert-MAIL-DC.ps1**



```
$login = "sysadmin@testenterprise.com"
$password = "123456" | Convertto-SecureString -AsPlainText -Force
$creds = New-Object System.Management.Automation.Pscredential -Argumentlist $login,$password
Send-MailMessage -From "sysadmin@testenterprise.com" -To "michael_firsov@testenterprise.cpom" -
Subject "CPU Alert on DC !" -Body "CPU Alert on DC! – CPU > 70%" -SmtpServer
mail.testenterprise.cpom -Port 25 -Credential $creds
```

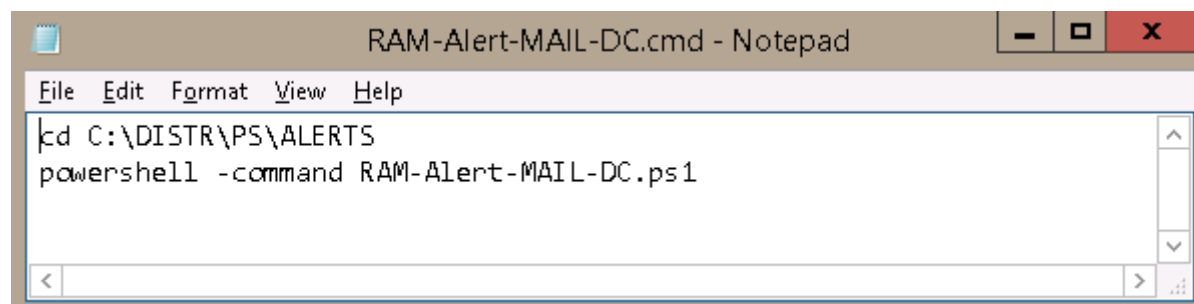


The other scripts pairs differ only in the -Subject and -Body fields: you can type there any warning you like to inform yourself what exactly alert have fired:



FreeSPACE-Alert-MAIL-DC.ps1

```
$login = "sysadmin@testenterprise.com"
$password = "123456" | Convertto-SecureString -AsPlainText -Force
$creds = New-Object System.Management.Automation.Pscredential -Argumentlist $login,$password
Send-MailMessage -From "sysadmin@testenterprise.com" -To "michael_firsov@testenterprise.cpom" -
Subject "CPU Alert on DC !" -Body "CPU Alert on DC! – CPU > 70%" -SmtpServer
mail.testenterprise.cpom -Port 25 -Credential $creds
```

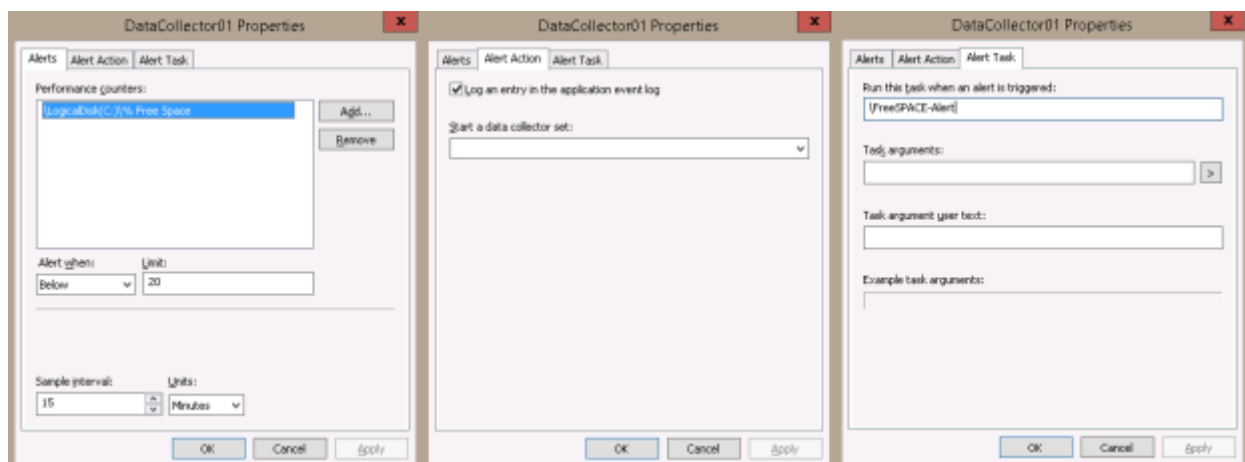
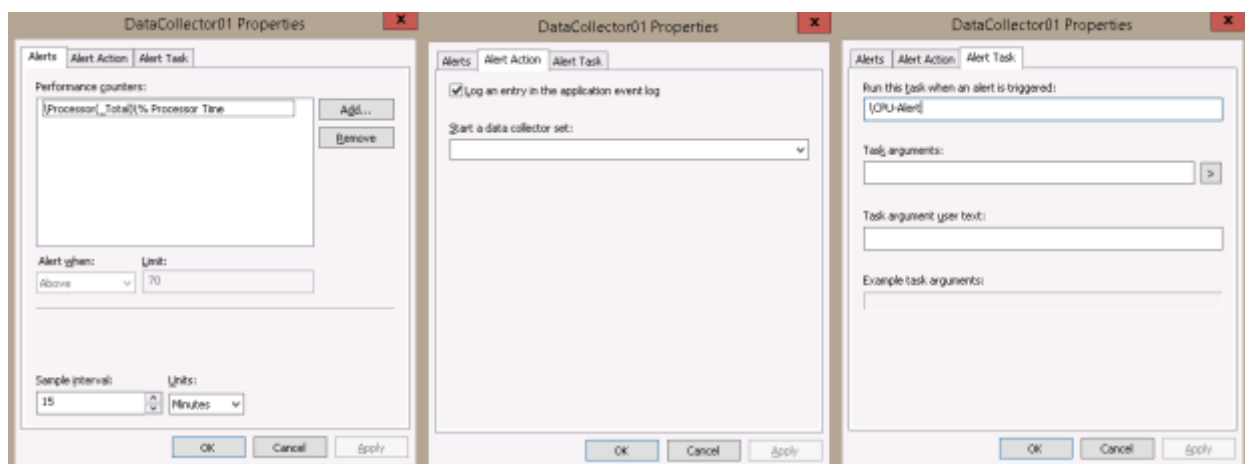
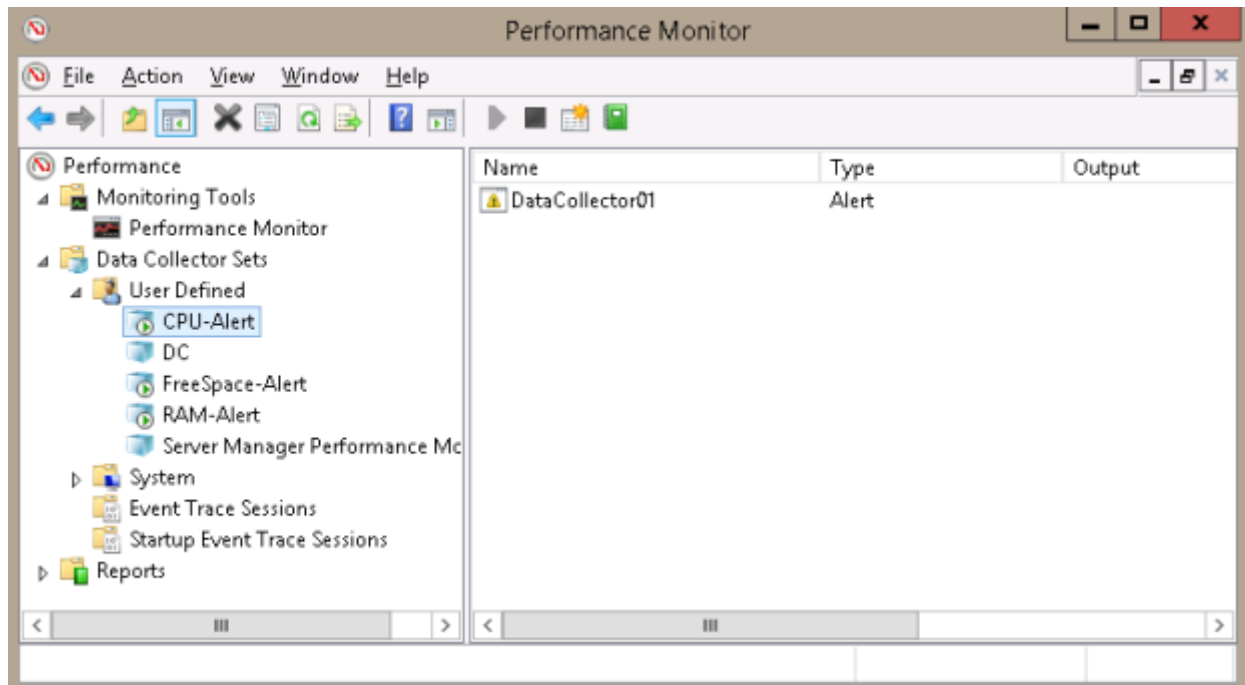


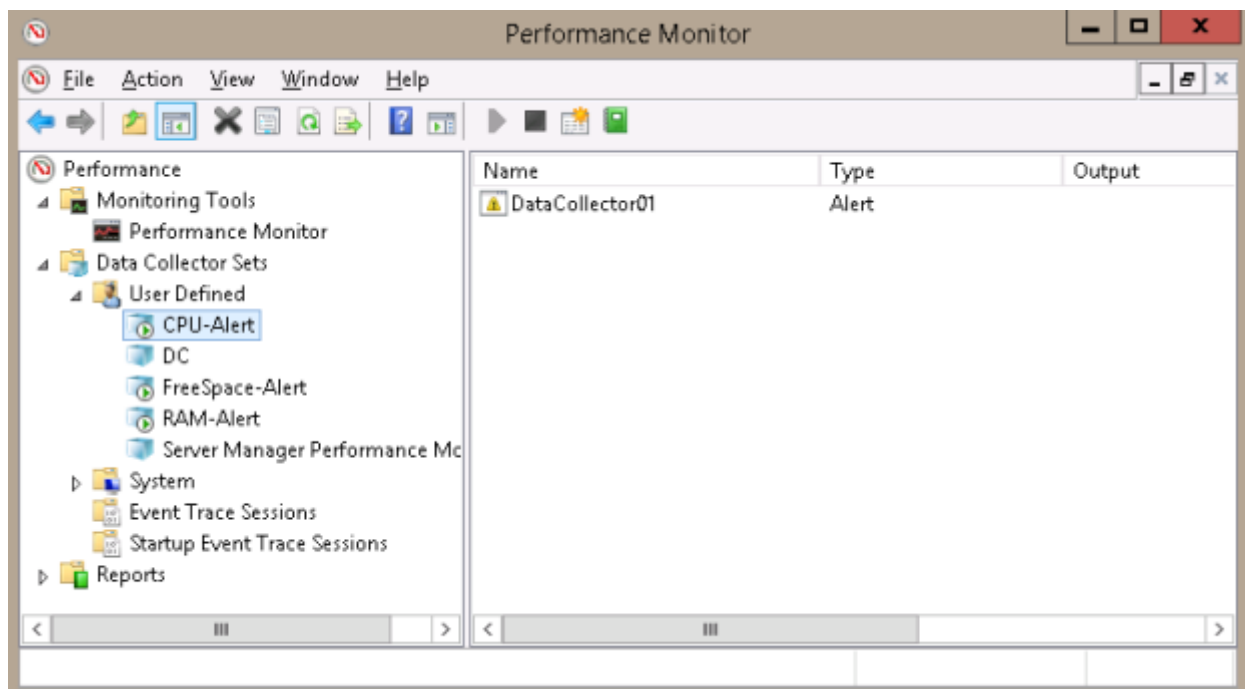
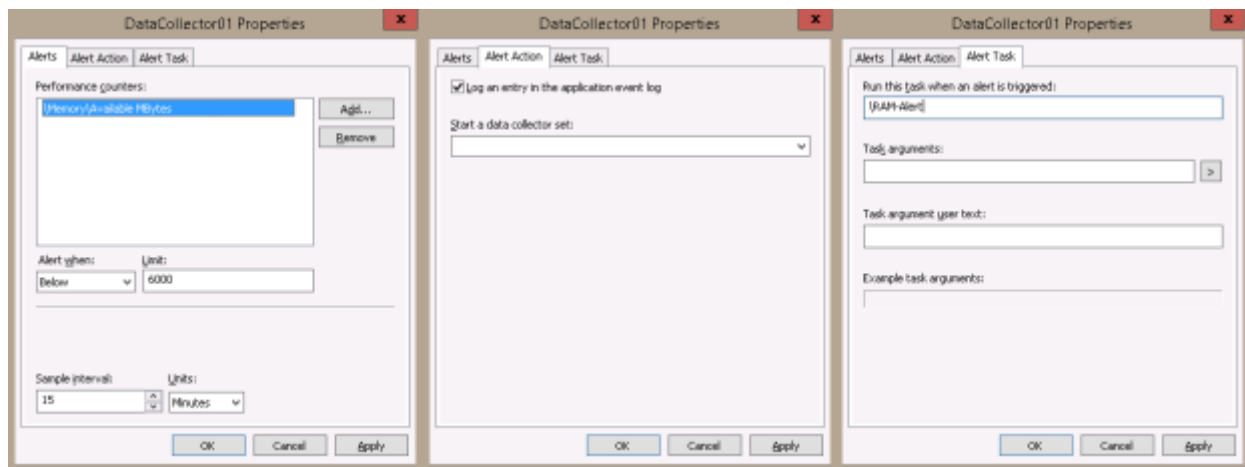
RAM-Alert-MAIL-DC.ps1

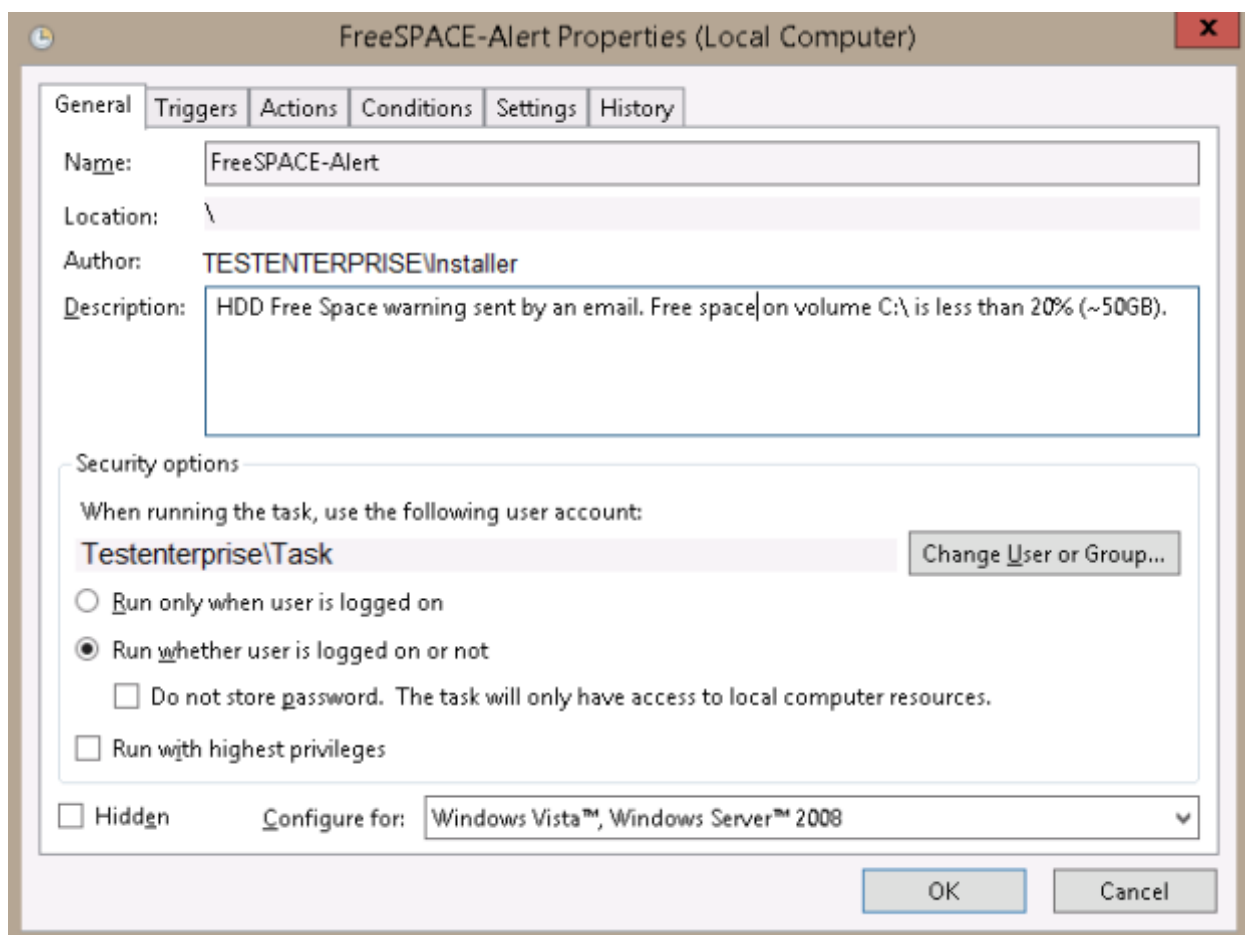
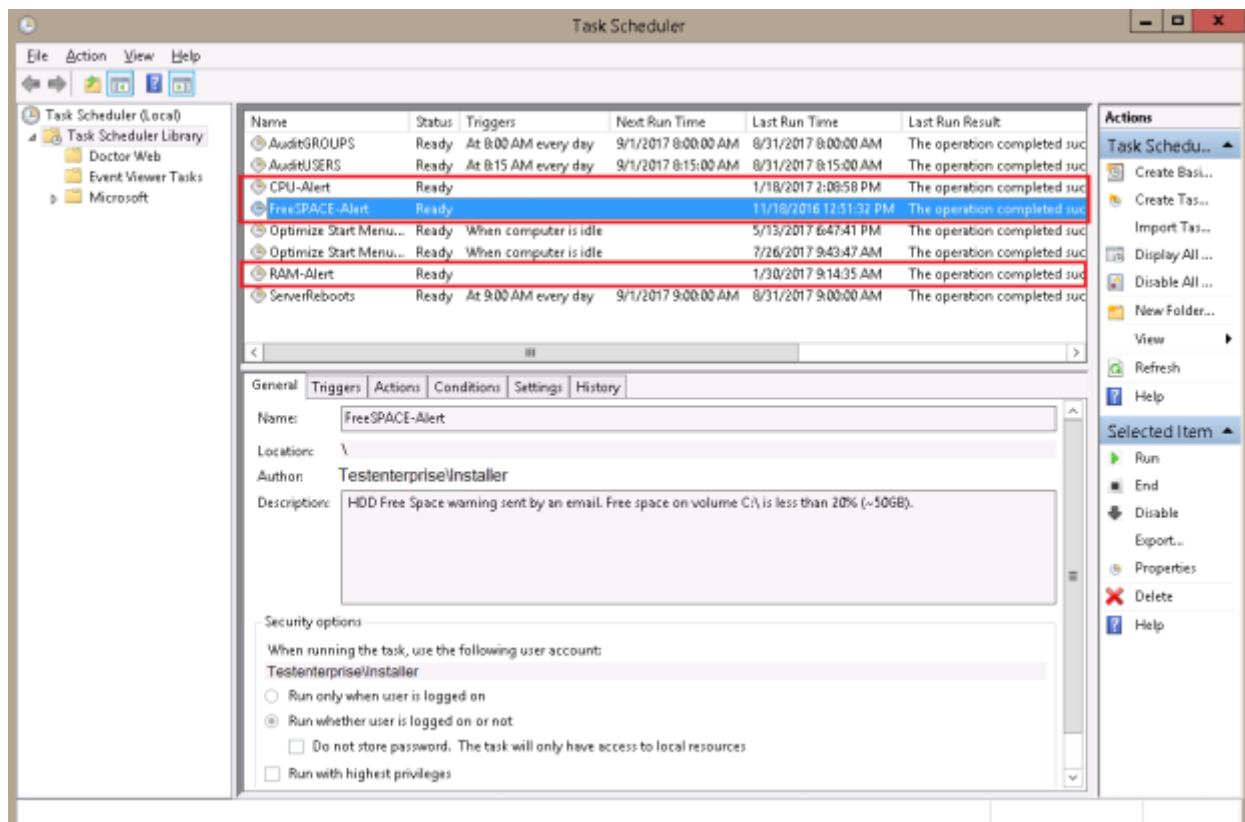
```
$login = "sysadmin@testenterprise.com"
$password = "123456" | Convertto-SecureString -AsPlainText -Force
```

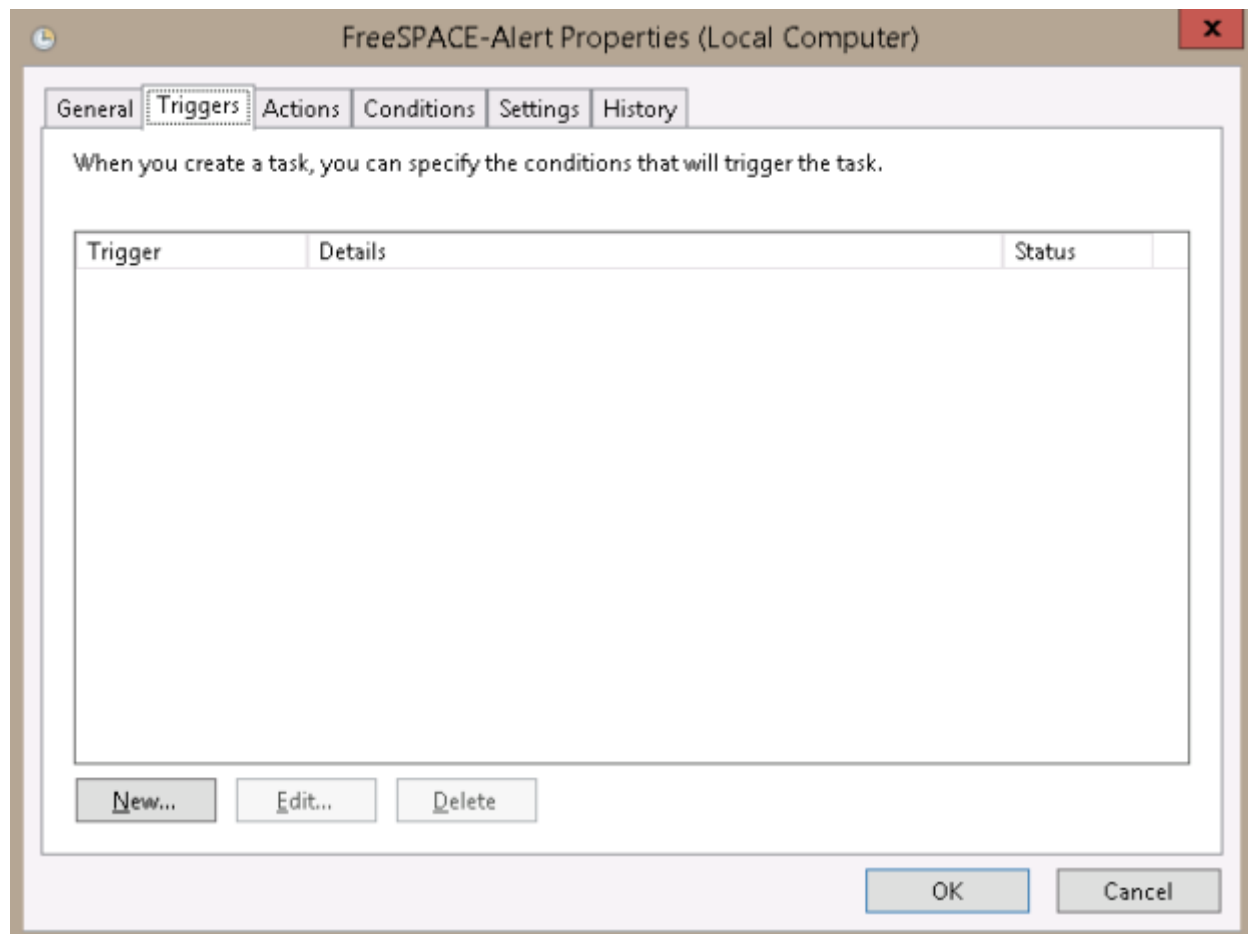
```
$creds = New-Object System.Management.Automation.Pscredential -Argumentlist $login,$password
Send-MailMessage -From "sysadmin@testenterprise.com" -To "michael_firsov@testenterprise.cpm" -
Subject "RAM Alert on DC" -Body "RAM Alert on DC: RAM: Available bytes < 6 GB." -SmtpServer
mail.testenterprise.cpm -Port 25 -Credential $creds
```

These scripts (**.cmd** scripts (!), which in turn will run the **.ps1** scripts of the same name) will be run by the corresponding scheduled task.

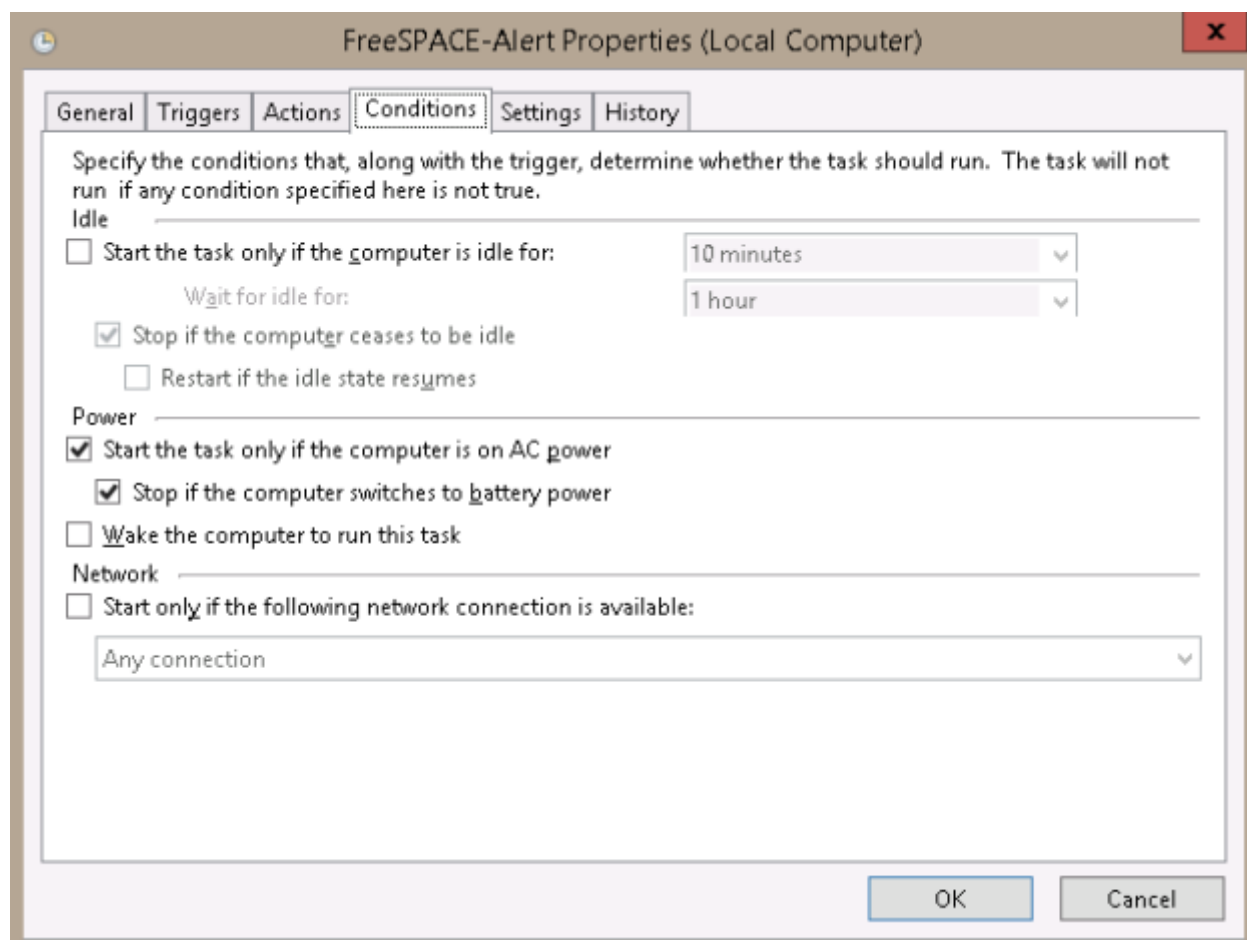
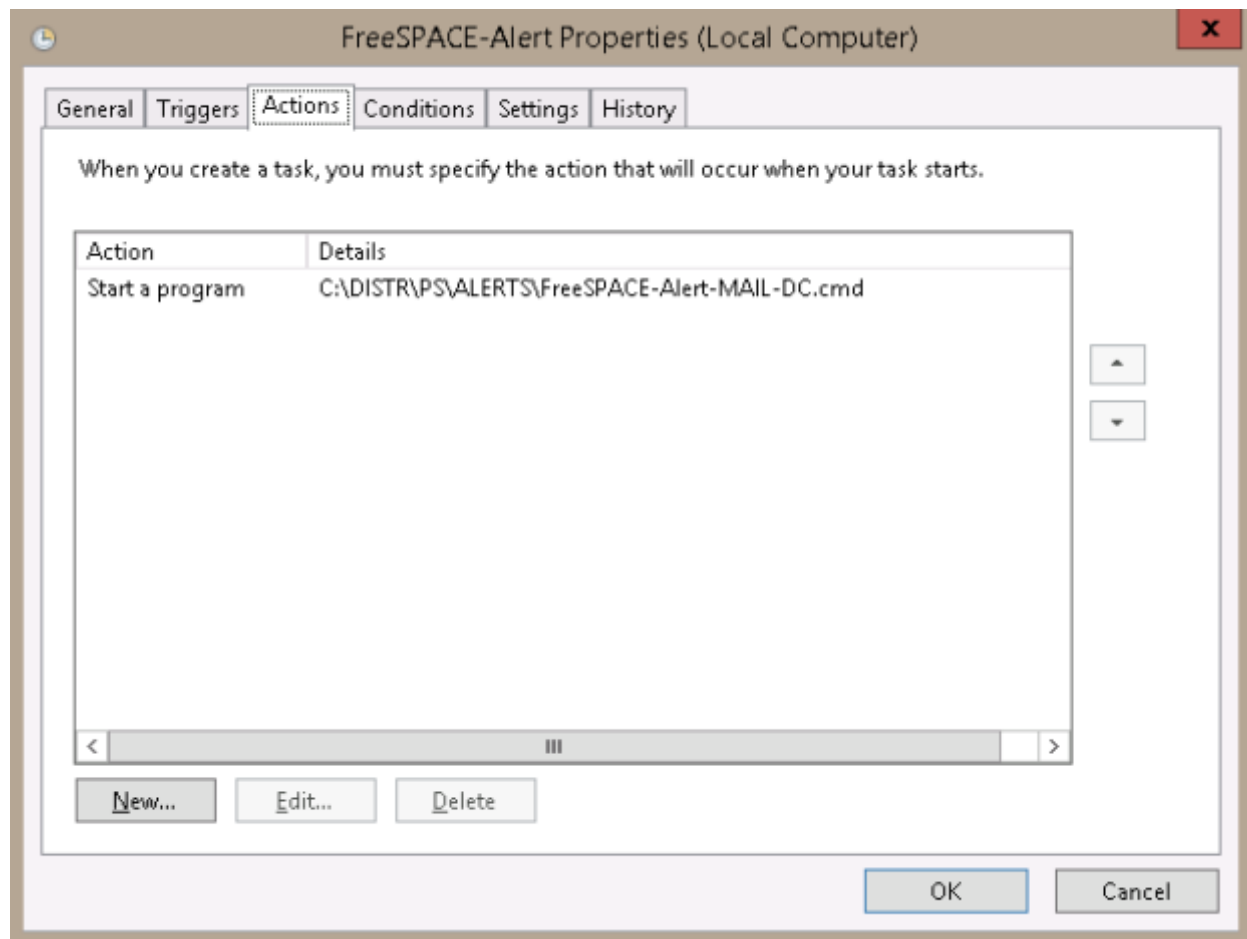


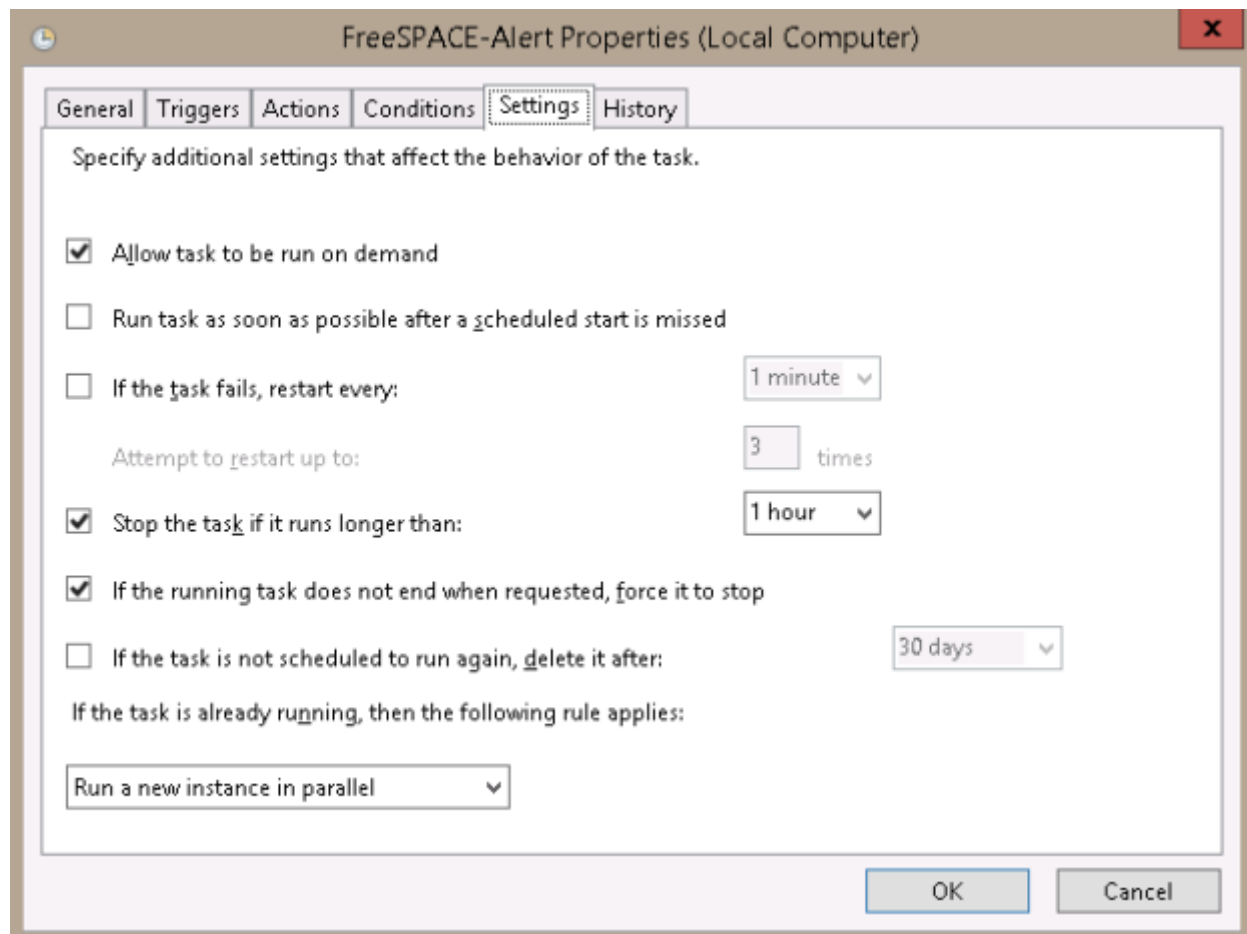




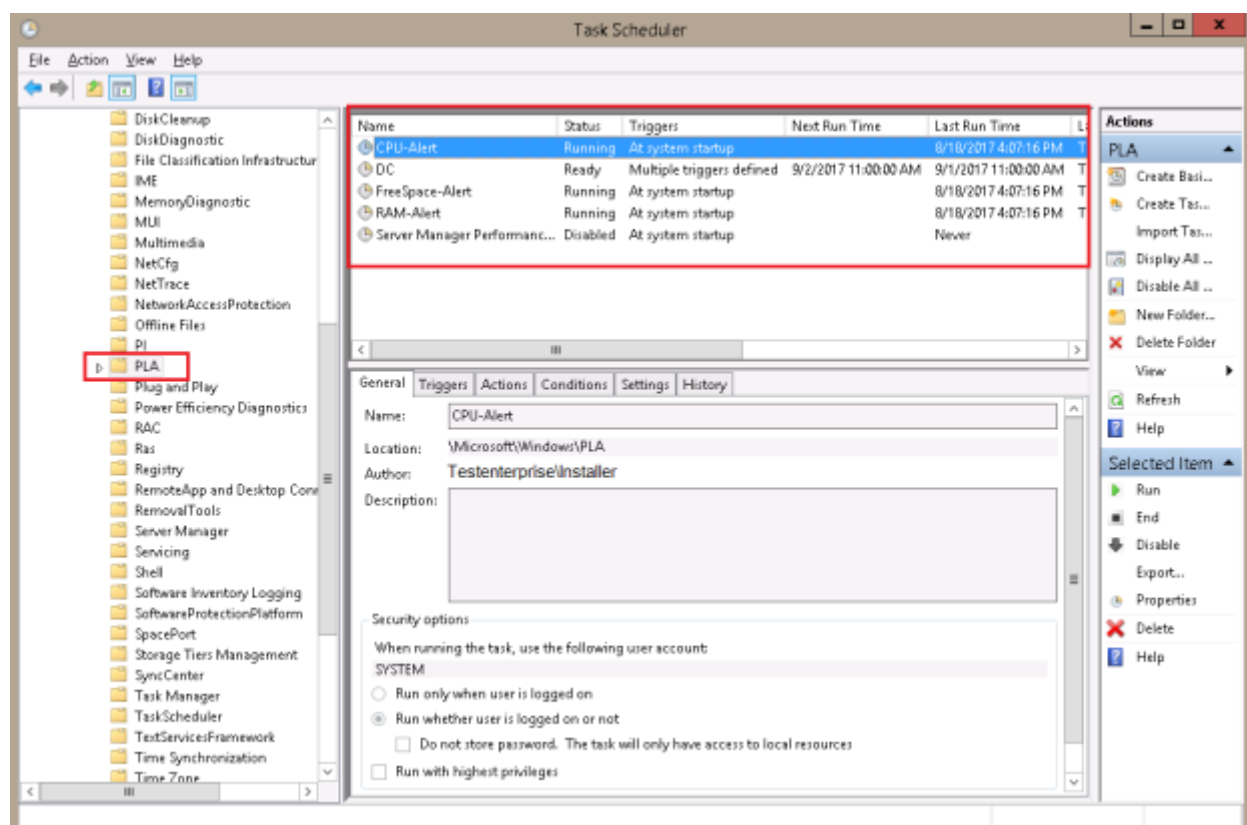


Please note that the **Triggers** tag of the task is empty – to make the alert run after server reboot I must configure the **Triggers** tab of another *FreeSpace-Alert* task which gets created automatically at **Microsoft\Windows\PLA** section of the **Task Scheduler** (I'll show it a bit later here).



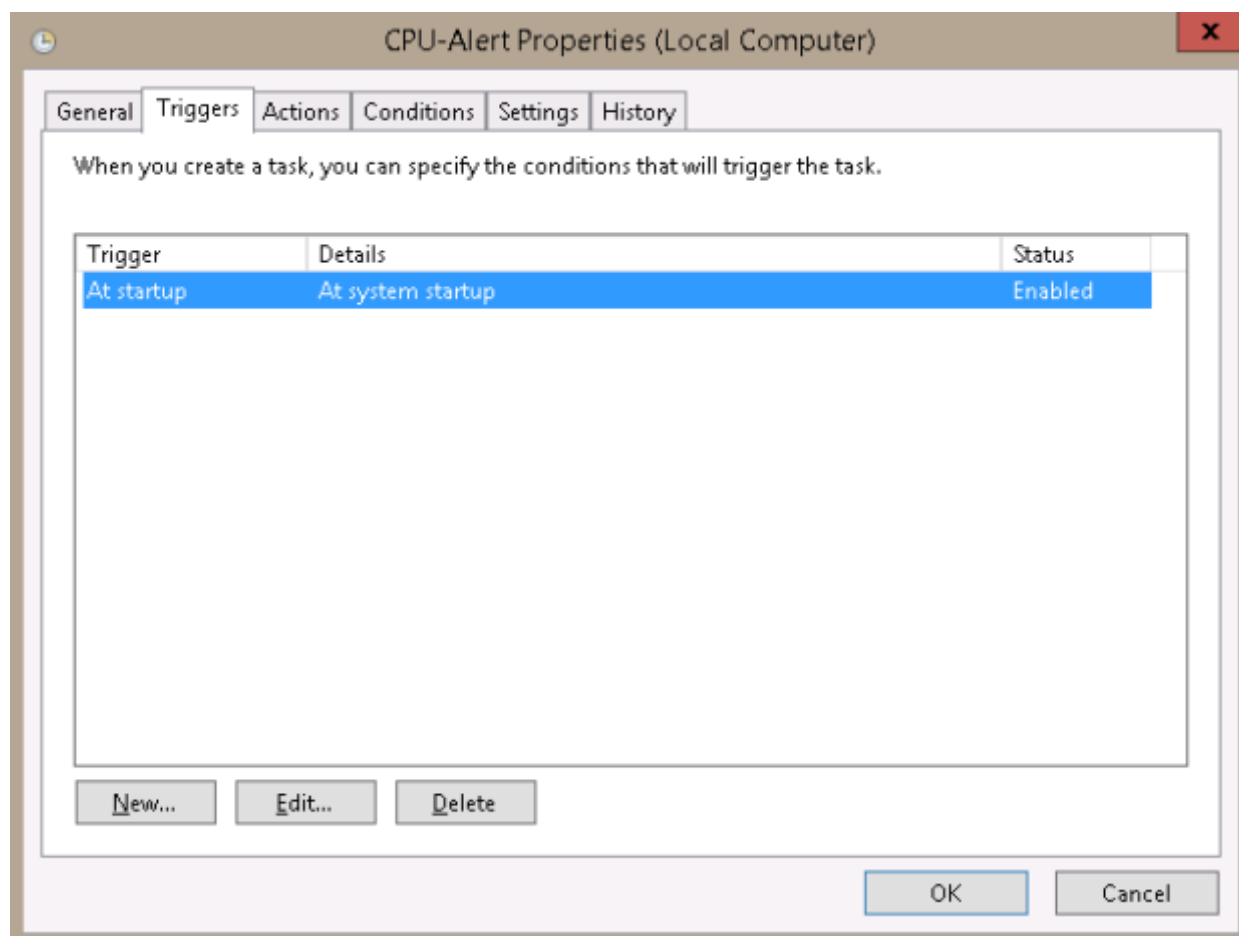


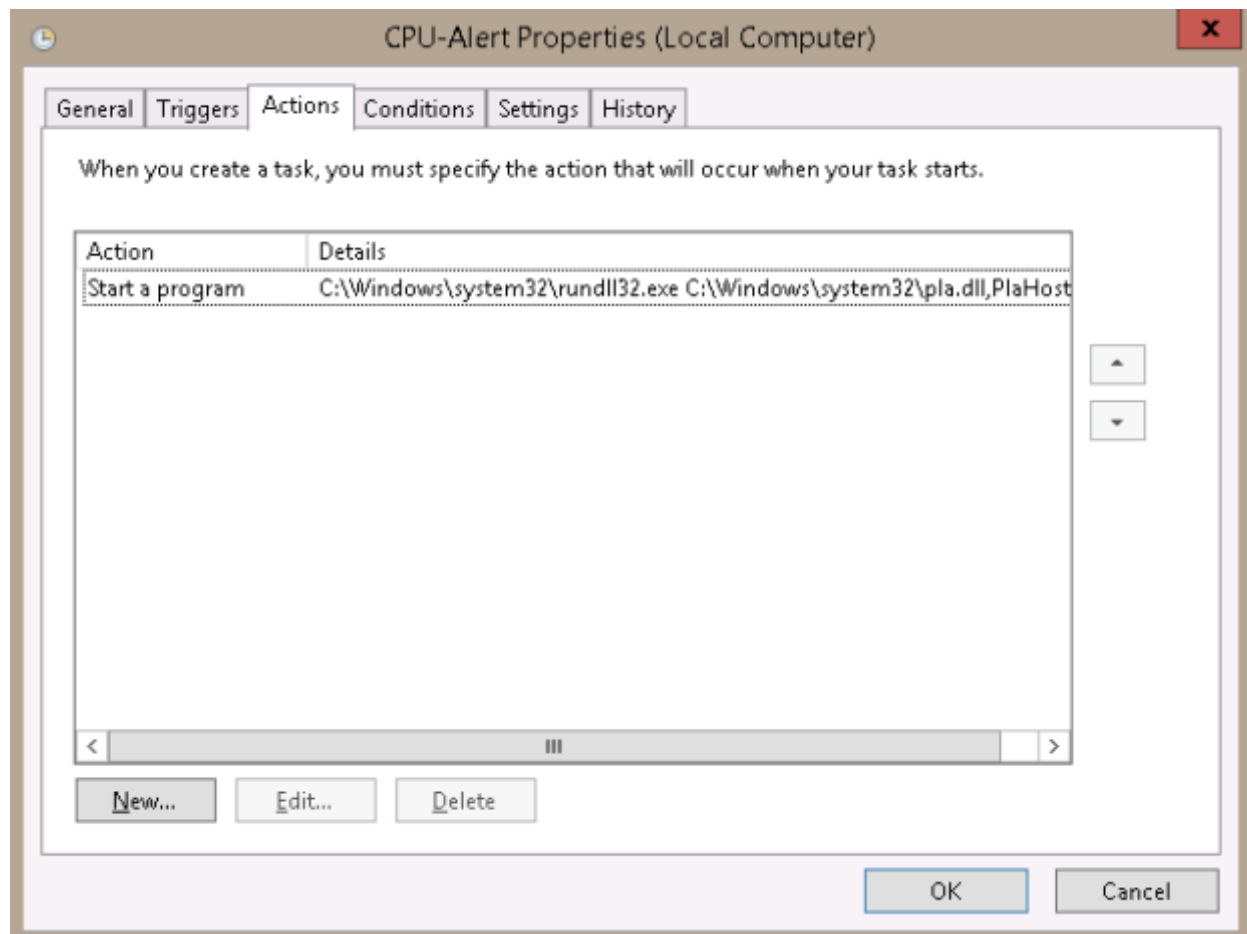
Here are the tasks that make alerts persist over server reboots: each task that have been created at the Task Scheduler(Library) level has a corresponding same-titled task at Microsoft\PLA level:



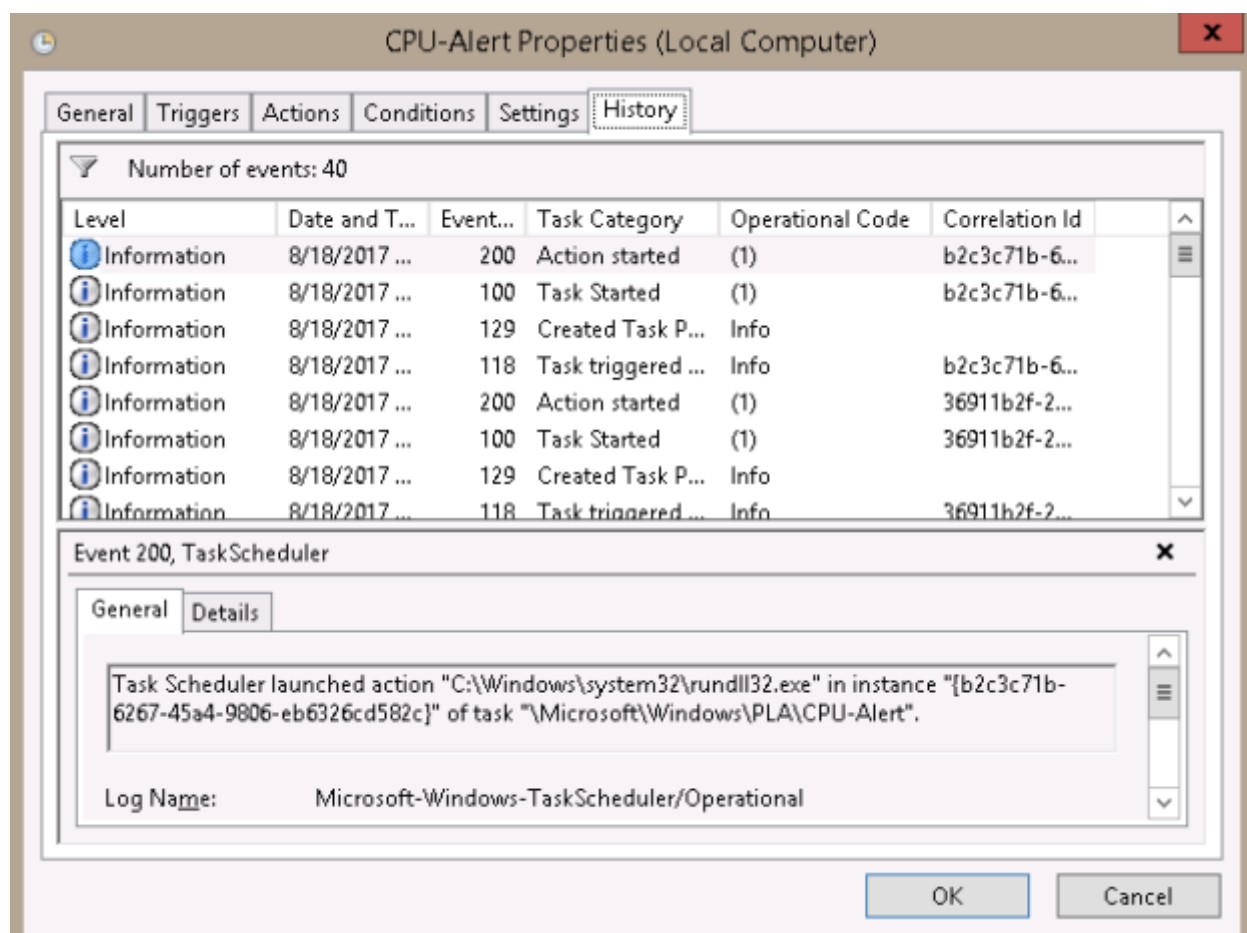
It's also worth noting that alerts will run automatically upon a server restart only if they were running before this server restart!

So the last step in configuring alerts is to configure the **Triggers** tab of all alert tasks in the **PLA** section, for example:

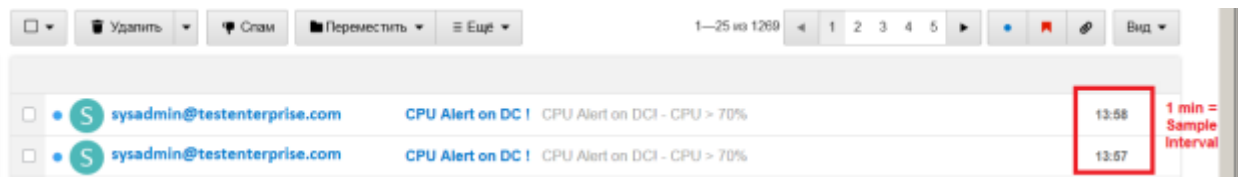




You shouldn't change anything on the **Actions** tab here – I just wanted to show how this tab look like at the PLA level.



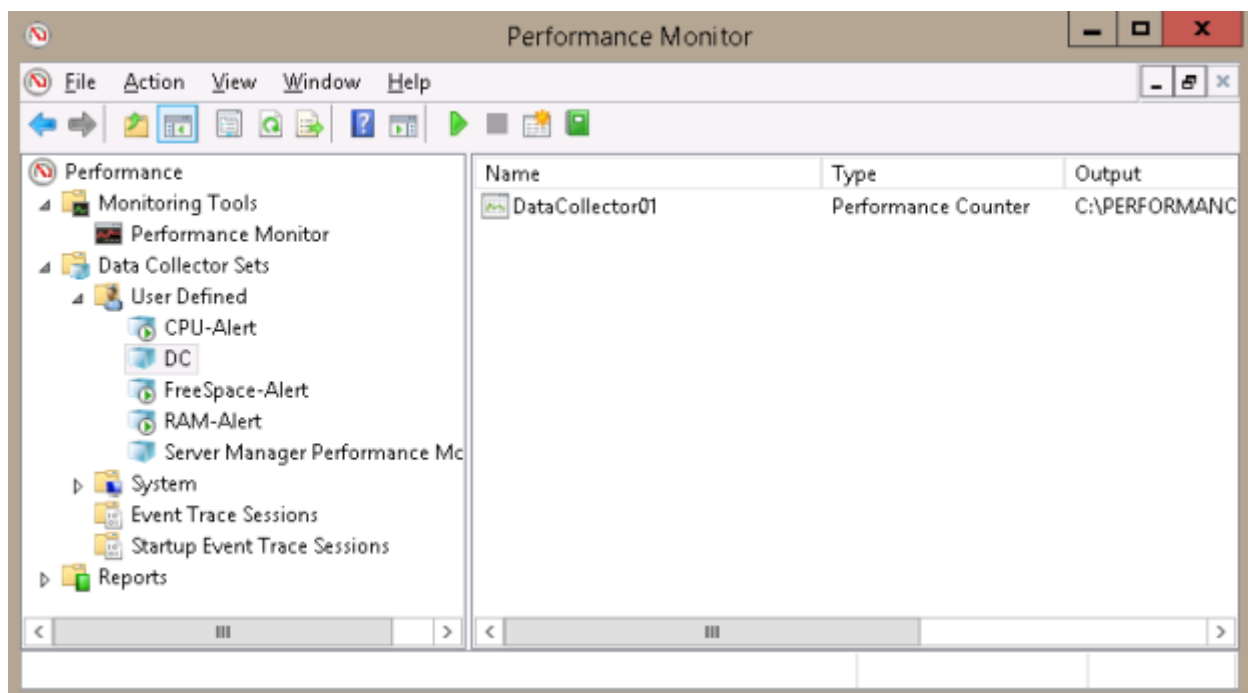
In case (for example) *Processor_Time* happens to exceed 70%, the following message – after the Sample interval has passed! – should arrive at michael_firsov@testenterprise.com (for this test I've change the *Sample Interval* from 15 min to 1) and Performance Monitor will keep sending this message utill Proceesor_Time falls under 70%.



5. Performance monitoring

While creating alerts may help administrator know which OS parameters are in critical conditions, they can't be used for establishing the overall system health – for this purpose we should create certain data collector sets that will collect the current performance counters values (daily/weekly/monthly) so that we could analyze that data later – that's why it's very important to establish your system monitoring policy right after OS (or any other program, such as SQL Server or Exchange Server) installation – to understand the trends in system performance an administrator should have an “image” of a clean system, otherwise observing the current values of various performance counters may not be of much interest.

For example, on my domain controller I've created the **DC** data collector – DC-xml – which starts every day at 11:00AM and collects information for 5 minutes:



DC Properties

General

Directory

Security

Schedule

Stop Condition

Task

Name:

DC

Description:

Main DCS

Keywords:

Add

Remove

Run As:

SYSTEM

Change...

OK

Cancel

Apply

DC Properties

General

Directory

Security

Schedule

Stop Condition

Task

Root directory:

C:\PERFORMANCE

Browse...

Subdirectory:

Subdirectory name format:

yyyyMMdd\NNNNNN

>

☒ Prefix subdirectory with computer name

Serial number:

225

Example directory:

C:\PERFORMANCE\DC_20170901-000225

OK

Cancel

Apply

DC Properties

General

Directory

Security

Schedule

Stop Condition

Task

Schedules:

Start	Days	Beginning	Expires
11:00 AM	Everyday	4/20/2017	...

Add

Edit...

Remove

☒ All schedules enabled

OK

Cancel

Apply

DC Properties

General

Directory

Security

Schedule

Stop Condition

Task

☒ Overall duration:

5

Units:

Minutes

Limits

☐ Restart the data collector set at limits.

☐ Duration:

0

Units:

Seconds

☐ Maximum Size:

0

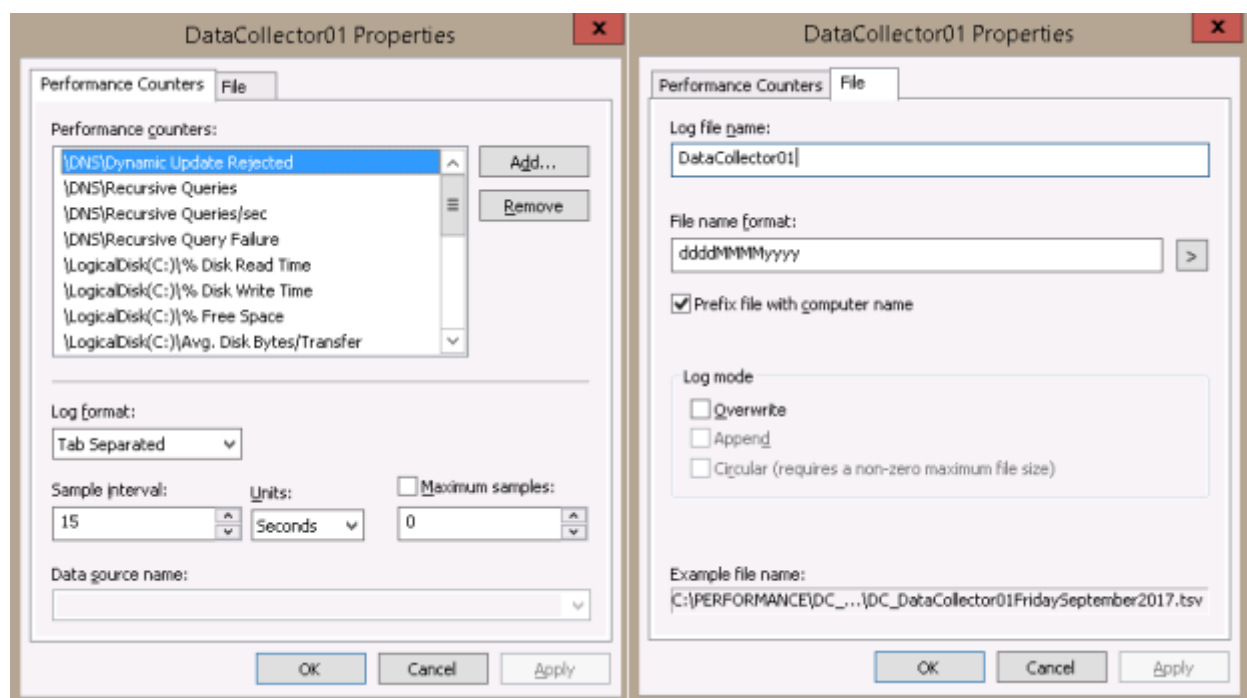
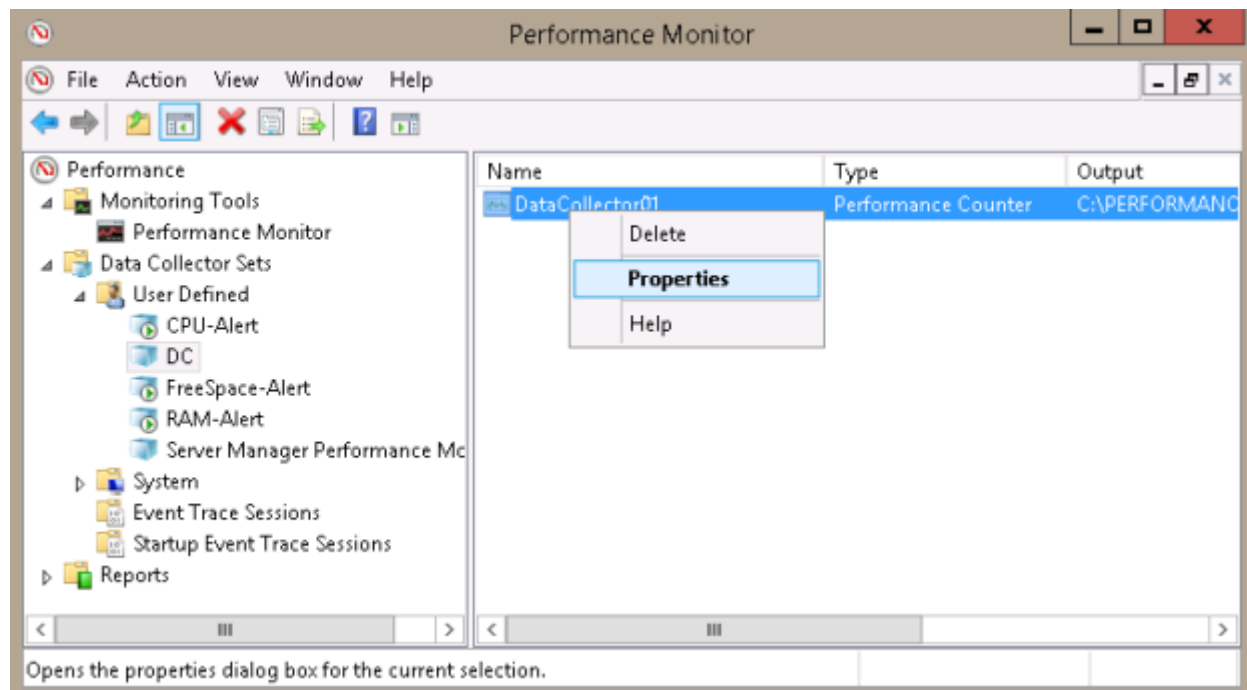
MB

☐ Stop when all data collectors have finished.

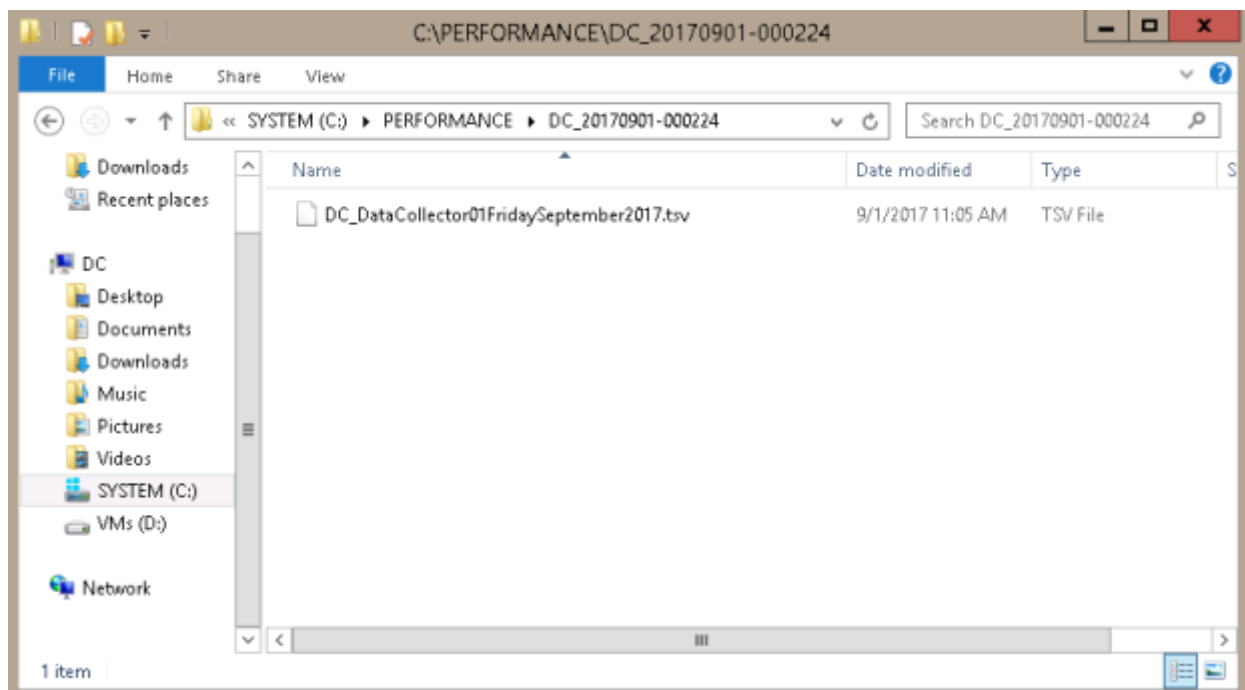
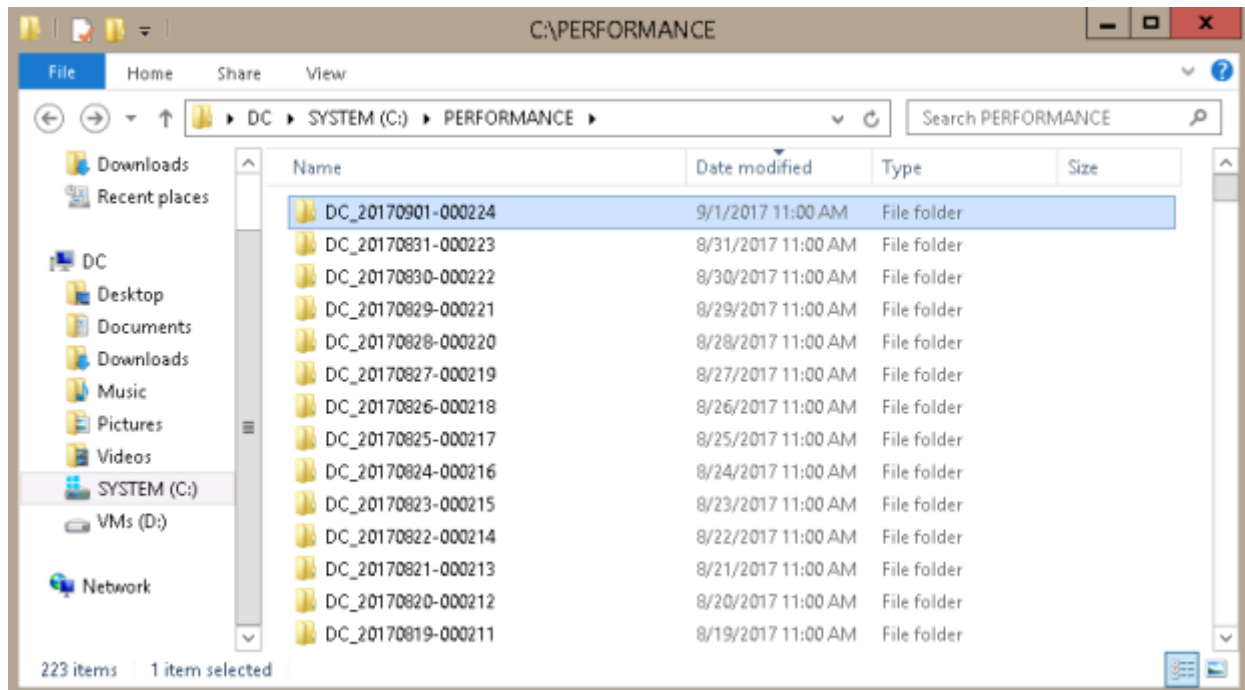
OK

Cancel

Apply



This data collector produces the following folders/files:



After importing the resulting .tsv files into – for example – MS Excel an administrator can later analyze data and correlate current values with any changes/procedures on the monitored server.

DC-24052017.xlsx - Excel						
File Home Insert Page Layout Formulas Data Review View Tell me what you want to do						
<div> <div>Clipboard</div> <div>Font</div> <div>Alignment</div> <div>Number</div> <div>Styles</div> <div>Cells</div> <div>Editing</div> </div>						
R6C11 1.334305953419646e-005						
1	2	3	4	5	6	7
1	0) (Russia TZ 2 Standard	\\DC\DNS\Dynamic Update Rejected	\\DC\DNS\Recursive Queries	\\DC\DNS\Recursive Queries/sec	\\DC\DNS\Recursive Query Failure	\\DC\Log
2	05/24/2017 11:00:00.379	47204	1014865		1128	
3	05/24/2017 11:00:15.372	47204	1014875	0.66717684165081081	1128	0.
4	05/24/2017 11:00:30.376	47204	1014887	0.79977958683040873	1128	
5	05/24/2017 11:00:45.380	47206	1014911	1.5095097227961497	1128	0.
6	05/24/2017 11:01:00.369	47206	1014927	1.0674419376783653	1128	0.
7	05/24/2017 11:01:15.375	47206	1014954	1.7993350966004993	1128	
8	05/24/2017 11:01:30.380	47206	1014963	0.59978543281580865	1128	0.
9	05/24/2017 11:01:45.369	47206	1014981	1.2008628548514828	1128	0.
10	05/24/2017 11:02:00.375	47206	1014991	0.66642974431994861	1128	0.
11	05/24/2017 11:02:15.380	47206	1015009	1.1995510555054387	1128	
12	05/24/2017 11:02:30.370	47206	1015016	0.46700378461238856	1128	
13	05/24/2017 11:02:45.376	47206	1015046	1.9992013718843324	1128	
14	05/24/2017 11:03:00.381	47206	1015072	1.7327617963945721	1128	
15	05/24/2017 11:03:15.369	47206	1015090	1.2008856891424493	1128	
16	05/24/2017 11:03:30.375	47206	1015110	1.3328311711424976	1128	
17	05/24/2017 11:03:45.381	47206	1015130	1.3328301100176978	1128	
18	05/24/2017 11:04:00.371	47206	1015147	1.1341121730274624	1128	0.
19	05/24/2017 11:04:15.376	47206	1015166	1.2661743189177721	1128	
20	05/24/2017 11:04:30.380	47206	1015180	0.93309359094121558	1128	
21	05/24/2017 11:04:45.368	47206	1015201	1.4011102626177532	1131	0.
22	05/24/2017 11:05:00.374	47206	1015221	1.3327941540445509	1131	0.
23	DC_DataCollector01WednesdayMay2					

Part2