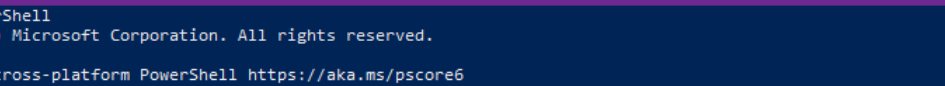


1. Leírja a PowerShell jelenlegi verzióját.



The screenshot shows a Windows PowerShell terminal window titled "Administrator: Windows PowerShell". The window has a dark blue background. The text displayed is as follows:

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\Administrator> $PSVersionTable
```

Name	Value
PSVersion	5.1.19041.610
PSEdition	Desktop
PSCompatibleVersions	{1.0, 2.0, 3.0, 4.0...}
BuildVersion	10.0.19041.610
CLRVersion	4.0.30319.42000
WSManStackVersion	3.0
PSRemotingProtocolVersion	2.3
SerializationVersion	1.1.0.1

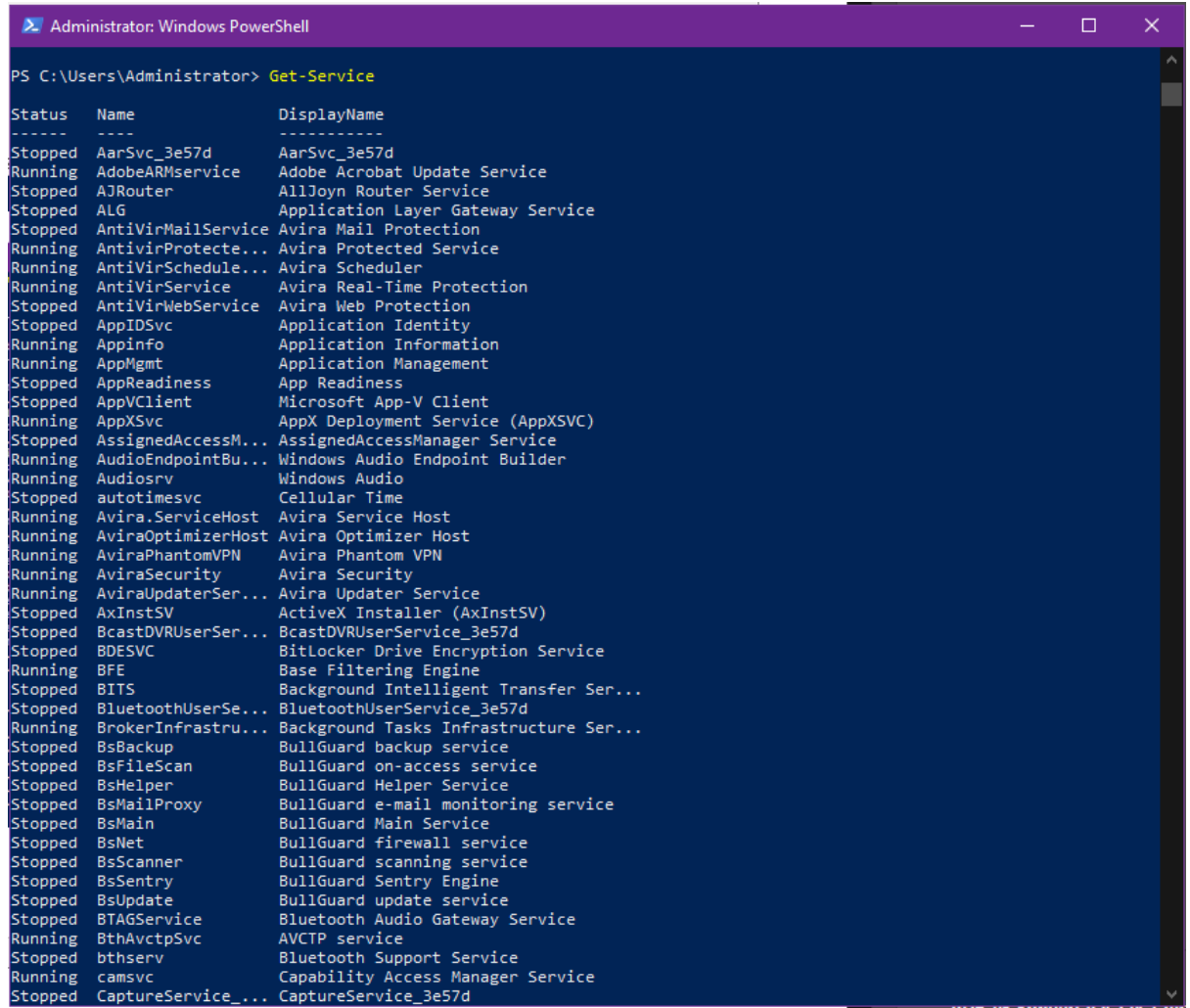
2. Tagokat legérdezi.

```
Administrator: Windows PowerShell
PS C:\Users\Administrator> Get-Service | Get-Member

TypeName: System.ServiceProcess.ServiceController

Name
----
MemberType      Definition
-----
Name            AliasProperty Name = ServiceName
RequiredServices AliasProperty RequiredServices = ServicesDependedOn
Disposed        Event System.EventHandler Disposed(System.Object, System.EventArgs)
Close           Method void Close()
Continue        Method void Continue()
CreateObjRef    Method System.Runtime.Remoting.ObjRef CreateObjRef(type requestedType)
Dispose         Method void Dispose(), void IDisposable.Dispose()
Equals          Method bool Equals(System.Object obj)
ExecuteCommand  Method void ExecuteCommand(int command)
GetHashCode     Method int GetHashCode()
GetLifetimeService Method System.Object GetLifetimeService()
GetType        Method type GetType()
InitializeLifetimeService Method System.Object InitializeLifetimeService()
Pause          Method void Pause()
Refresh         Method void Refresh()
Start          Method void Start(), void Start(string[] args)
Stop           Method void Stop()
WaitForStatus   Method void WaitForStatus(System.ServiceProcess.ServiceControllerStatus desiredStat...
CanPauseAndContinue Property bool CanPauseAndContinue {get;}
CanShutdown    Property bool CanShutdown {get;}
CanStop        Property bool CanStop {get;}
Container       Property System.ComponentModel.IContainer Container {get;}
DependentServices Property System.ServiceProcess.ServiceController[] DependentServices {get;}
DisplayName     Property string DisplayName {get;set;}
MachineName     Property string MachineName {get;set;}
ServiceHandle   Property System.Runtime.InteropServices.SafeHandle ServiceHandle {get;}
ServiceName     Property string ServiceName {get;set;}
ServicesDependedOn Property System.ServiceProcess.ServiceController[] ServicesDependedOn {get;}
ServiceType     Property System.ServiceProcess.ServiceType ServiceType {get;}
Site           Property System.ComponentModel.ISite Site {get;set;}
StartType      Property System.ServiceProcess.ServiceStartMode StartType {get;}
Status          Property System.ServiceProcess.ServiceControllerStatus Status {get;}
ToString       ScriptMethod System.Object ToString();
```

3. A szolgáltatásokat lekérdezi. Kiírja az állapotukat és a nevüket.



```
Administrator: Windows PowerShell

PS C:\Users\Administrator> Get-Service

Status Name DisplayName
-----
Stopped AarSvc_3e57d AarSvc_3e57d
Running AdobeARMService Adobe Acrobat Update Service
Stopped AJRouter AllJoyn Router Service
Stopped ALG Application Layer Gateway Service
Stopped AntiVirMailService Avira Mail Protection
Running AntiVirProtecte... Avira Protected Service
Running AntiVirSchedule... Avira Scheduler
Running AntiVirService Avira Real-Time Protection
Stopped AntiVirWebService Avira Web Protection
Stopped AppIDSvc Application Identity
Running AppInfo Application Information
Running AppMgmt Application Management
Stopped AppReadiness App Readiness
Stopped AppVClient Microsoft App-V Client
Running AppXSvc AppX Deployment Service (AppXSVC)
Stopped AssignedAccessM... AssignedAccessManager Service
Running AudioEndpointBu... Windows Audio Endpoint Builder
Running Audiosrv Windows Audio
Stopped autotimesvc Cellular Time
Running Avira.ServiceHost Avira Service Host
Running AviraOptimizerHost Avira Optimizer Host
Running AviraPhantomVPN Avira Phantom VPN
Running AviraSecurity Avira Security
Running AviraUpdaterSer... Avira Updater Service
Stopped AxInstSV ActiveX Installer (AxInstSV)
Stopped BcastDVRUserSer... BcastDVRUserService_3e57d
Stopped BDESVC BitLocker Drive Encryption Service
Running BFE Base Filtering Engine
Stopped BITS Background Intelligent Transfer Ser...
Stopped BluetoothUserSe... BluetoothUserService_3e57d
Running BrokerInfrastru... Background Tasks Infrastructure Ser...
Stopped BsBackup BullGuard backup service
Stopped BsFileScan BullGuard on-access service
Stopped BsHelper BullGuard Helper Service
Stopped BsMailProxy BullGuard e-mail monitoring service
Stopped BsMain BullGuard Main Service
Stopped BsNet BullGuard firewall service
Stopped BsScanner BullGuard scanning service
Stopped BsSentry BullGuard Sentry Engine
Stopped BsUpdate BullGuard update service
Stopped BTAGService Bluetooth Audio Gateway Service
Running BthAvctpSvc AVCTP service
Stopped bthserv Bluetooth Support Service
Running camsvc Capability Access Manager Service
Stopped CaptureService_... CaptureService_3e57d
```

4. Könyvtárakat és fájlokat le

```
Administrator: Windows PowerShell
PS C:\> Get-ChildItem

Directory: C:\

Mode                LastWriteTime         Length Name
----                -
da----          2020-11-15 12:52             Ghost Toolbox
d-----          2021-02-08 13:20             javagyak
d-----          2019-12-07 10:14             PerfLogs
da----          2021-02-20 22:35             Program Files
d-r---          2021-02-23 14:41             Program Files (x86)
da----          2020-12-26 10:16             Users
da----          2021-03-02 12:06             Windows
-a----          2021-01-16 17:43      82164 Defaultfile1.rpgsave

PS C:\>
```

5. A parancsok rövidített neveit írja ki.

```
Administrator: Windows PowerShell
PS C:\> Get-Alias

CommandType      Name                                Version      Source
-----
Alias             % -> ForEach-Object
Alias             ? -> Where-Object
Alias             ac -> Add-Content
Alias             asnp -> Add-PSSnapin
Alias             cat -> Get-Content
Alias             cd -> Set-Location
Alias             CFS -> ConvertFrom-String          3.1.0.0      Microsoft.PowerShell.Utility
Alias             chdir -> Set-Location
Alias             clc -> Clear-Content
Alias             clear -> Clear-Host
Alias             clhy -> Clear-History
Alias             cli -> Clear-Item
Alias             clp -> Clear-ItemProperty
Alias             cls -> Clear-Host
Alias             clv -> Clear-Variable
Alias             cnsn -> Connect-PSSession
Alias             compare -> Compare-Object
Alias             copy -> Copy-Item
Alias             cp -> Copy-Item
Alias             cpi -> Copy-Item
Alias             cpp -> Copy-ItemProperty
Alias             curl -> Invoke-WebRequest
Alias             cvpa -> Convert-Path
Alias             dbp -> Disable-PSBreakpoint
Alias             del -> Remove-Item
Alias             diff -> Compare-Object
Alias             dir -> Get-ChildItem
Alias             dnsn -> Disconnect-PSSession
Alias             ebp -> Enable-PSBreakpoint
Alias             echo -> Write-Output
Alias             epal -> Export-Alias
Alias             epsv -> Export-Csv
Alias             epsn -> Export-PSSession
Alias             erase -> Remove-Item
Alias             etsn -> Enter-PSSession
Alias             exsn -> Exit-PSSession
Alias             fc -> Format-Custom
Alias             fhx -> Format-Hex                  3.1.0.0      Microsoft.PowerShell.Utility
Alias             fl -> Format-List
Alias             foreach -> ForEach-Object
Alias             ft -> Format-Table
Alias             fw -> Format-Wide
Alias             gal -> Get-Alias
Alias             gbp -> Get-PSBreakpoint
Alias             gc -> Get-Content
Alias             gcb -> Get-Clipboard              3.1.0.0      Microsoft.PowerShell.Management
```

6. Létrehoz egy előre megadott nevű Alias-t

```
Administrator: Windows PowerShell

341      17      4140      15788      6.89      6120      1 svchost
195      12      2364      5396      1.38      6448      0 svchost
267      12      2260      4820      0.17      6520      0 svchost
184      10      1844      7772      0.02      6704      0 svchost
185      14      6096      2520      0.08      7064      0 svchost
292      17      4056      11292      1.25      7152      0 svchost
228      13      2732      5104      4.80      8840      0 svchost
104      7      1220      2060      0.11      9172      0 svchost
339      18      5120      10956      0.97      9204      0 svchost
233      17      18676     32304      0.38      9764      0 svchost
101      7      1244      1124      0.02      10008     0 svchost
378      13      4744      6924      1.80      10696     0 svchost
167      81      2248      2232      0.55      11100     0 svchost
114      7      1300      6580      0.00      13532     0 svchost
584      79      21696     22564      2.31      16440     0 svchost
165      9      1788      7980      0.02      18104     0 svchost
5452     0      220      6508      12,351.22 4      0 System
768      38      72892     2960      0.27      13100     1 SystemSettings
795      40      252684    37080      166.56     3776     1 taskhostw
263      15      4696      14548      0.11      11696     1 taskhostw
303      22      23444     79384      0.05      572       1 Teams
451      22      16908     44292      2.86      672       1 Teams
341      84      159564    110132     167.00     9320     1 Teams
1296     58      221816    140516     286.83    10316     1 Teams
322      26      27744     51172      0.17      11112     1 Teams
669      38      333376    110752     266.63    11156     1 Teams
485      136     295720    269092     109.42    11580     1 Teams
1129     66      158464    118416     35.58     12072     1 Teams
343      20      11436     59432      0.84      16952     1 Teams
434      50      104496    110048     879.80    14852     1 tixati
350      31      55208     49932      589.33     6668     1 TSMApplication
133      10      2300      4120      1.02      12312     1 UserOOBEBroker
182      9      1892      8688      0.03      1912      0 VBoxSDS
801      17      7204      19536      0.38      11712     1 VBoxSVC
416      21      60780     54620      3.58      7148     1 VirtualBox
553      52      361524    70292      85.33     6012     1 vlc
163      11      1368      448       0.02      680       0 wininit
257      13      3124      6072      0.91      828       1 winlogon
1909     77      290220    223860     50.53     14236     1 WINWORD
322      14      11648     13704      4,826.91 3348      0 WmiPrvSE

PS C:\> Get-Alias processz

CommandType      Name
-----
Alias            processz -> Get-Process

PS C:\>
```

7. Adott meghajtón lévő szolgáltatások.

```
Administrator: Windows PowerShell

PS C:\> Get-Service | ft name, status -AutoSize
```

Name	Status
----	-----
AarSvc_3e57d	Stopped
AdobeARMservice	Running
AJRouter	Stopped
ALG	Stopped
AntiVirMailService	Stopped
AntiVirProtectedService	Running
AntiVirSchedulerService	Running
AntiVirService	Running
AntiVirWebService	Stopped
AppIDSvc	Stopped
AppInfo	Running
AppMgmt	Running
AppReadiness	Stopped
AppVClient	Stopped
AppXSvc	Stopped
AssignedAccessManagerSvc	Stopped
AudioEndpointBuilder	Running
Audiosrv	Running
autotimesvc	Stopped
Avira.ServiceHost	Running
AviraOptimizerHost	Running
AviraPhantomVPN	Running
AviraSecurity	Running
AviraUpdaterService	Running
AxInstSV	Stopped
BcastDVRUserService_3e57d	Stopped
BDESVC	Stopped
BFE	Running
BITS	Stopped
BluetoothUserService_3e57d	Stopped
BrokerInfrastructure	Running
BsBackup	Stopped
BsFileScan	Stopped
BsHelper	Stopped
BsMailProxy	Stopped
BsMain	Stopped
BsNet	Stopped
BsScanner	Stopped
BsSentry	Stopped
BsUpdate	Stopped
BTAGService	Stopped
BthAvctpSvc	Running
bthserv	Stopped
camsvc	Running
CaptureService_3e57d	Stopped

8. a. Sorba rendezi az objektumokat név szerint.

```
Administrator: Windows PowerShell
PS C:\> Get-Process | Sort-Object name
```

Handles	NPM(K)	PM(K)	WS(K)	CPU(s)	Id	SI	ProcessName
282	23	32248	22536	6.38	14832	1	AcroRd32
589	26	36152	31552	2.17	18224	1	AcroRd32
1385	72	380584	256580	162.02	9076	1	AcroRd32
309	16	13036	12860	0.72	12096	1	AcroRd32
420	25	41308	20968	49.53	11416	1	Agent
323	20	8668	10016	0.13	13108	1	ApplicationFrameHost
122	8	1556	336	0.00	4584	0	armsvc
272	16	14184	21560	280.28	580	0	audiodg
273	22	6312	1516	1.78	12924	1	avgnt
915	76	219876	41136	2,440.05	4596	0	avguard
269	17	4600	4900	3.64	4652	0	Avira.OptimizerHost
1030	120	56236	43400	94.80	4632	0	Avira.ServiceHost
886	56	68296	27704	113.67	4692	0	Avira.SoftwareUpdater.ServiceHost
1396	67	63576	35176	95.44	4664	0	Avira.Spotlight.Service
974	186	134544	118152	1,278.44	11076	1	Avira.Systray
755	44	44648	20632	7.30	4644	0	Avira.VpnService
130	9	1864	3040	12.86	1776	0	avshadow
596	67	108172	115468	52.36	10380	1	Battle.net
620	37	62556	43380	11.11	14448	1	Battle.net
1057	67	81692	88900	20.77	7104	1	Battle.net
402	28	12968	25452	2.09	9464	1	Battle.net
509	35	143680	25652	2,059.34	8608	1	chatterino
249	18	53744	53184	287.52	11272	1	chrome
399	42	369608	317312	761.27	11236	1	chrome
270	22	62608	38104	64.25	10888	1	chrome
227	18	49480	33804	428.59	11632	1	chrome
340	26	104732	45500	26.23	12768	1	chrome
241	18	42076	74844	2.13	12488	1	chrome
368	27	119956	73436	107.05	11968	1	chrome
285	16	7736	8484	877.16	10708	1	chrome
223	27	44296	28456	481.64	9792	1	chrome
218	15	24452	20784	4.81	9756	1	chrome
295	21	61012	59528	4.14	8900	1	chrome
528	9	1920	4024	0.19	9856	1	chrome
368	34	252620	91252	1,909.83	10128	1	chrome
215	14	15136	6020	2.14	10108	1	chrome
247	17	40476	54540	1.61	10068	1	chrome
253	19	44528	51424	1.78	16180	1	chrome
361	27	103616	45408	36.16	15664	1	chrome
341	20	47692	79388	0.89	15508	1	chrome
331	28	115264	78208	47.70	16256	1	chrome
217	14	14688	28732	0.13	17948	1	chrome
241	18	40040	50308	1.52	17788	1	chrome
197	13	11604	24136	0.05	16460	1	chrome
297	21	68132	80644	5.67	15392	1	chrome
358	32	234152	234112	37.03	13820	1	chrome

b.

```
Administrator: Windows PowerShell

PS C:\> Get-Process | Sort-Object name -Descending
>> Szűrés
```

Handles	NPM(K)	PM(K)	WS(K)	CPU(s)	Id	SI	ProcessName
320	14	11572	13704	4,829.09	3348	0	WmiPrvSE
1917	80	300408	231452	54.69	14236	1	WINWORD
257	13	3124	6076	0.91	828	1	winlogon
163	11	1368	448	0.02	680	0	wininit
553	52	361524	70292	85.53	6012	1	vlc
412	21	60780	54660	3.59	7148	1	VirtualBox
803	17	7212	19544	0.38	11712	1	VBoxSVC
182	9	1892	8688	0.03	1912	0	VBoxSDS
125	9	2236	4084	1.02	12312	1	UserOOBEBroker
350	31	55208	49932	589.41	6668	1	TSMApplication
416	48	105060	110588	895.53	14852	1	tixati
341	84	159564	110168	167.02	9320	1	Teams
1302	58	221924	140632	287.00	10316	1	Teams
459	23	17028	44428	2.91	672	1	Teams
303	22	23728	79360	0.06	5812	1	Teams
322	26	27744	51172	0.17	11112	1	Teams
1129	66	158464	117832	35.80	12072	1	Teams
346	20	11472	59452	0.84	16952	1	Teams
669	38	333376	111508	266.66	11156	1	Teams
485	136	295792	268636	109.64	11580	1	Teams
797	40	253268	37704	166.97	3776	1	taskhostw
263	15	4696	14548	0.11	11696	1	taskhostw
768	38	72892	2960	0.27	13100	1	SystemSettings
5422	0	220	6508	12,358.17	4	0	System
171	10	1888	5308	0.19	2088	0	svchost
241	9	2244	3520	1.33	2076	0	svchost
171	9	1860	3188	7.47	2352	0	svchost
400	12	2852	5452	6.41	2200	0	svchost
324	10	2640	3516	86.42	1860	0	svchost
118	8	1380	1368	0.06	1820	0	svchost
401	16	5464	6052	173.63	2024	0	svchost
235	12	2716	5512	429.22	2004	0	svchost
136	9	1500	1568	0.02	2444	0	svchost
198	11	2060	3460	0.05	2884	0	svchost
152	9	1744	3340	0.23	2784	0	svchost
179	9	5856	10532	8.39	3304	0	svchost
568	15	5108	10608	67.58	3184	0	svchost
322	15	3900	4856	355.89	2580	0	svchost
138	8	1452	2232	0.14	2464	0	svchost
397	14	7312	10704	4,198.86	2652	0	svchost
263	15	2704	4040	0.92	2620	0	svchost
146	25	4640	2484	2.05	1736	0	svchost
240	7	1224	1396	0.42	1084	0	svchost
1069	24	12668	18272	79.97	992	0	svchost

9. Windows időt lekérdezi.

```
Administrator: Windows PowerShell

PS C:\> Get-Service | Where-Object { $_.name -eq "w32time" }
```

Status	Name	DisplayName
Stopped	W32Time	Windows Time

10. Megadott szűrési feltétel alapján lekérdezi a neveket.

```
PS C:\> Get-Service | Where-Object { $_.name -like "wi*" }
```

Status	Name	DisplayName
Stopped	WiaRpc	Still Image Acquisition Events
Running	WinHttpAutoProx...	WinHTTP Web Proxy Auto-Discovery Se...
Running	Winmgmt	Windows Management Instrumentation
Stopped	WinRM	Windows Remote Management (WS-Manag...
Stopped	wisvc	Windows Insider Service

11. Csoportosítsa állapot szerint az objektumokat

```
PS C:\> Get-Service | Group-Object status

Count Name Group
-----
177 Stopped {AarSvc_3e57d, AJRouter, ALG, AntiVirMailService...}
99 Running {AdobeARMService, AntivirProtectedService, AntiVirSchedulerService, AntiVirService...}
```

```
Administrator: Windows PowerShell

PS C:\> Get-Process | ForEach-Object { $_.id*2 }

18152
24192
29664
36448
22832
26216
9168
1160
25848
9192
9304
9264
9384
9328
22152
9288
3552
14208
18928
20760
28896
17216
2016
2288
2432
3168
3368
3632
4208
4664
4760
4992
5272
5496
6008
6592
7872
8392
8592
9664
9696
11696
12848
13080
13256
14400
14632
15304
15416
```

12. Megszámolja az objektumokat

```
PS C:\> Get-Process | Measure-Object

Count      : 236
Average    :
Sum        :
Maximum    :
Minimum    :
Property   :
```

13. Megszámolja az objektumokat feltételek szerint

```
Administrator: Windows PowerShell

PS C:\> Get-Process | Measure-Object -Property WorkingSet -Maximum -Minimum -Sum -Average

Count      : 238
Average    : 46631135.7310924
Sum        : 11098210304
Maximum    : 1517109248
Minimum    : 8192
Property   : WorkingSet
```

14. Megadja az objektumok számát.

a)

```
PS C:\> (Get-Service).count  
276
```

b)

```
PS C:\> $x = (Get-Service)  
PS C:\> $x.count  
276  
PS C:\>
```

15. Tagok legkérdezése

```
PS C:\> $x = 5  
PS C:\> $x | Get-Member  
  
TypeName: System.Int32  
  
Name MemberType Definition  
-----  
CompareTo Method int CompareTo(System.Object value), int CompareTo(int value), int IComparable.CompareTo(Syste...  
Equals Method bool Equals(System.Object obj), bool Equals(int obj), bool IEquatable[int].Equals(int other)  
GetHashCode Method int GetHashCode()  
GetType Method type GetType()  
GetTypeCode Method System.TypeCode GetTypeCode(), System.TypeCode IConvertible.GetTypeCode()  
ToBoolean Method bool IConvertible.ToBoolean(System.IFormatProvider provider)  
ToByte Method byte IConvertible.ToByte(System.IFormatProvider provider)  
ToChar Method char IConvertible.ToChar(System.IFormatProvider provider)  
ToDateTime Method datetime IConvertible.ToDateTime(System.IFormatProvider provider)  
ToDecimal Method decimal IConvertible.ToDecimal(System.IFormatProvider provider)  
ToDouble Method double IConvertible.ToDouble(System.IFormatProvider provider)  
ToInt16 Method int16 IConvertible.ToInt16(System.IFormatProvider provider)  
ToInt32 Method int IConvertible.ToInt32(System.IFormatProvider provider)  
ToInt64 Method long IConvertible.ToInt64(System.IFormatProvider provider)  
ToSByte Method sbyte IConvertible.ToSByte(System.IFormatProvider provider)  
ToSingle Method float IConvertible.ToSingle(System.IFormatProvider provider)  
ToString Method string ToString(), string ToString(string format), string ToString(System.IFormatProvider pro...  
ToType Method System.Object IConvertible.ToType(type conversionType, System.IFormatProvider provider)  
ToUInt16 Method uint16 IConvertible.ToUInt16(System.IFormatProvider provider)  
ToUInt32 Method uint32 IConvertible.ToUInt32(System.IFormatProvider provider)  
ToUInt64 Method uint64 IConvertible.ToUInt64(System.IFormatProvider provider)
```

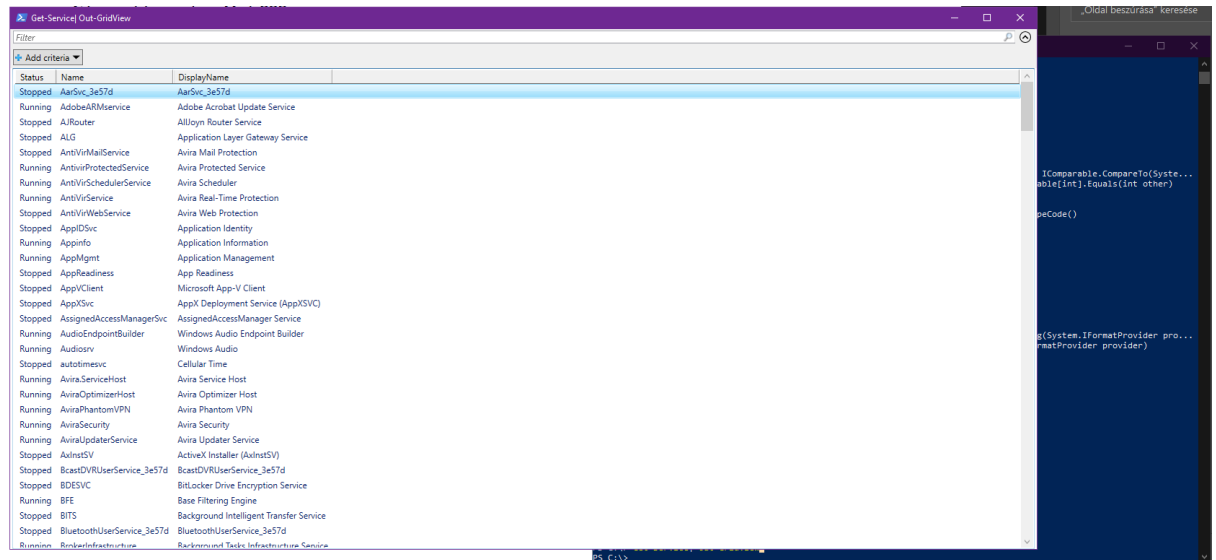
16. Szöveg nevű változó létrehozása Miskolc értékkel

```
PS C:\> $szoveg = "Miskolc"  
PS C:\> "$szoveg-on élek."  
Miskolc-on élek.  
PS C:\> '$szoveg-on élek.'  
$szoveg-on élek.  
PS C:\>
```

17.

```
PS C:\> $szoveg.Length  
7  
PS C:\> $szoveg.ToUpper()  
MISKOLC  
PS C:\> $szoveg.Replace("kolc", "ka")  
Miska  
PS C:\> $szoveg.Split("s")  
Mi  
kolc
```

18.



19.

