

# **Operációs rendszerek BSc**

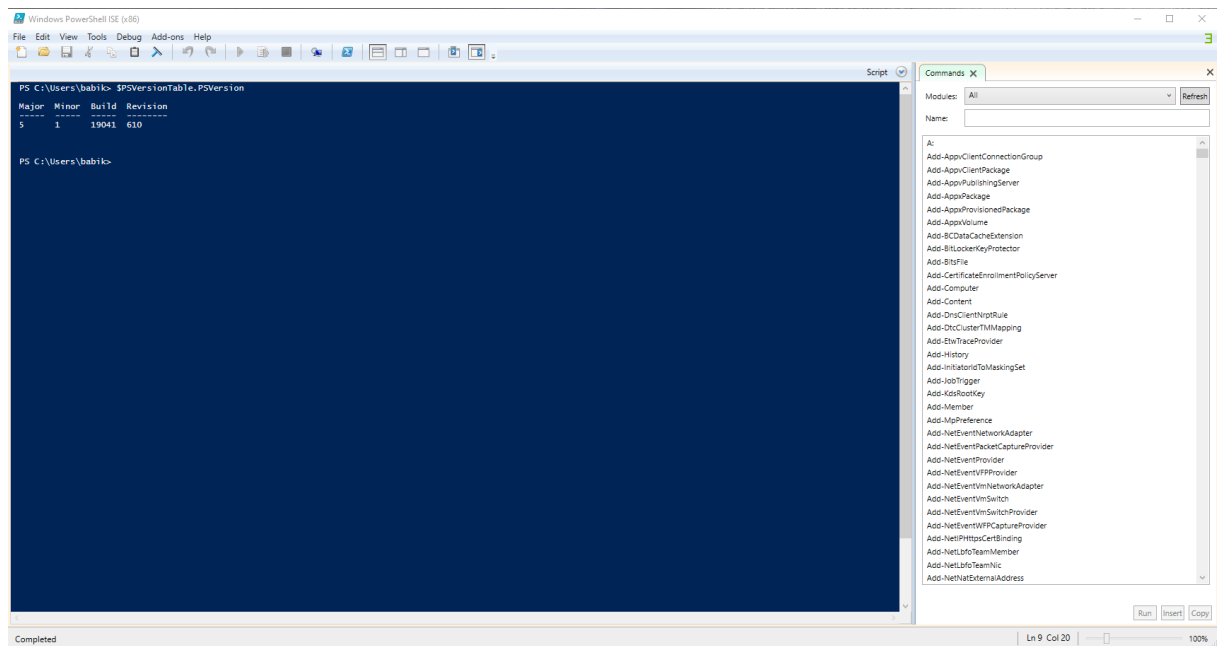
4. gyak

2021.03.03.

## **Készítette:**

Babik Szilárd Kristóf BSc  
programtervező informatikus  
A6NQW1

## 1. feladat – PowerShell verzió

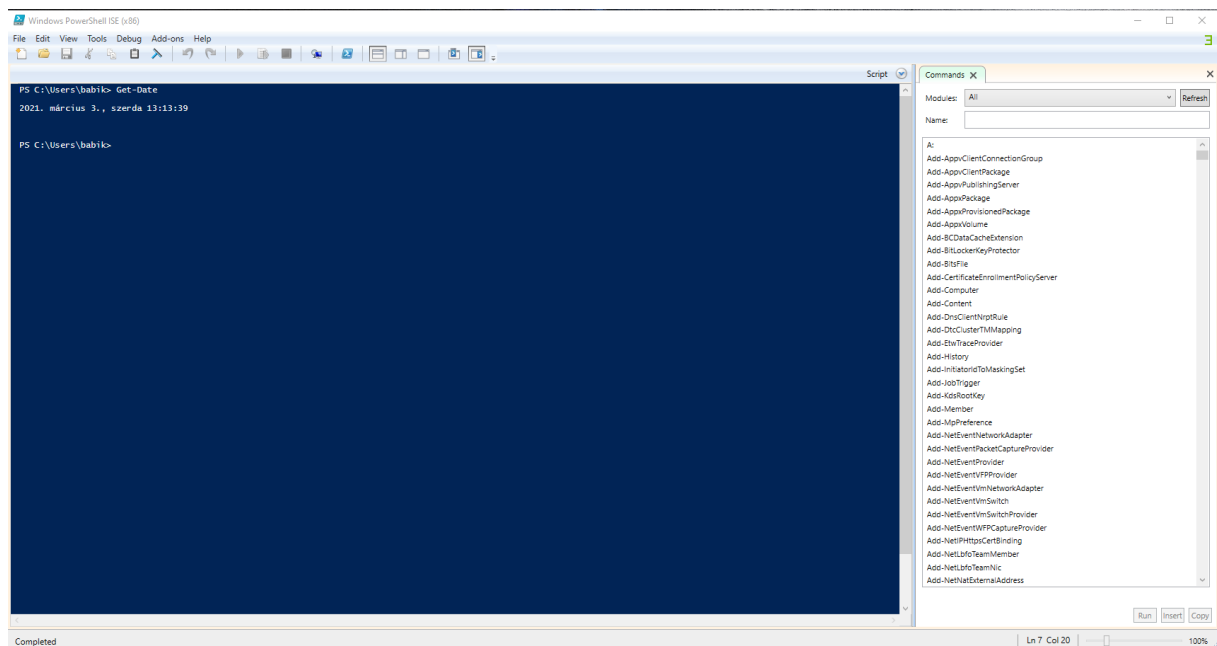


The screenshot shows the Windows PowerShell ISE interface. The main console area displays the output of the command `$PSVersionTable`, which returns a table of PowerShell version information. The table has four columns: Major, Minor, Build, and Revision. The values are 5, 1, 19041, and 610 respectively. The command prompt is `PS C:\Users\babik>`. The right-hand pane shows the 'Commands' window with a list of available cmdlets, including `Add-AppClientConnectionGroup`, `Add-AppClientPackage`, `Add-AppPublishingServer`, `Add-AppPackage`, `Add-AppProvisionedPackage`, `Add-AppVolume`, `Add-BCDataCacheExtension`, `Add-BitLockerKeyProtector`, `Add-BitsFile`, `Add-CertificateEnrollmentPolicyServer`, `Add-Computer`, `Add-Content`, `Add-DnsClientNtpRule`, `Add-DtcClusterTMMapping`, `Add-EtwTraceProvider`, `Add-History`, `Add-IntendToMaskingSet`, `Add-JobTrigger`, `Add-KdsRootKey`, `Add-Member`, `Add-NetEventNetworkAdapter`, `Add-NetEventPacketCaptureProvider`, `Add-NetEventProvider`, `Add-NetEventVFPProvider`, `Add-NetEventVmNetworkAdapter`, `Add-NetEventVmSwitch`, `Add-NetEventVmSwitchProvider`, `Add-NetEventWFPProvider`, `Add-NetEventWFPProvider`, `Add-NetPHttpsCertBinding`, `Add-NetInfoTeamMember`, `Add-NetInfoTeamNIC`, and `Add-NetNatExternalAddress`. The status bar at the bottom indicates 'Completed' and 'Ln 9 Col 20'.

```
PS C:\Users\babik> $PSVersionTable
Major Minor Build Revision
-----
5      1      19041  610

PS C:\Users\babik>
```

## 2. feladat – Mai dátum

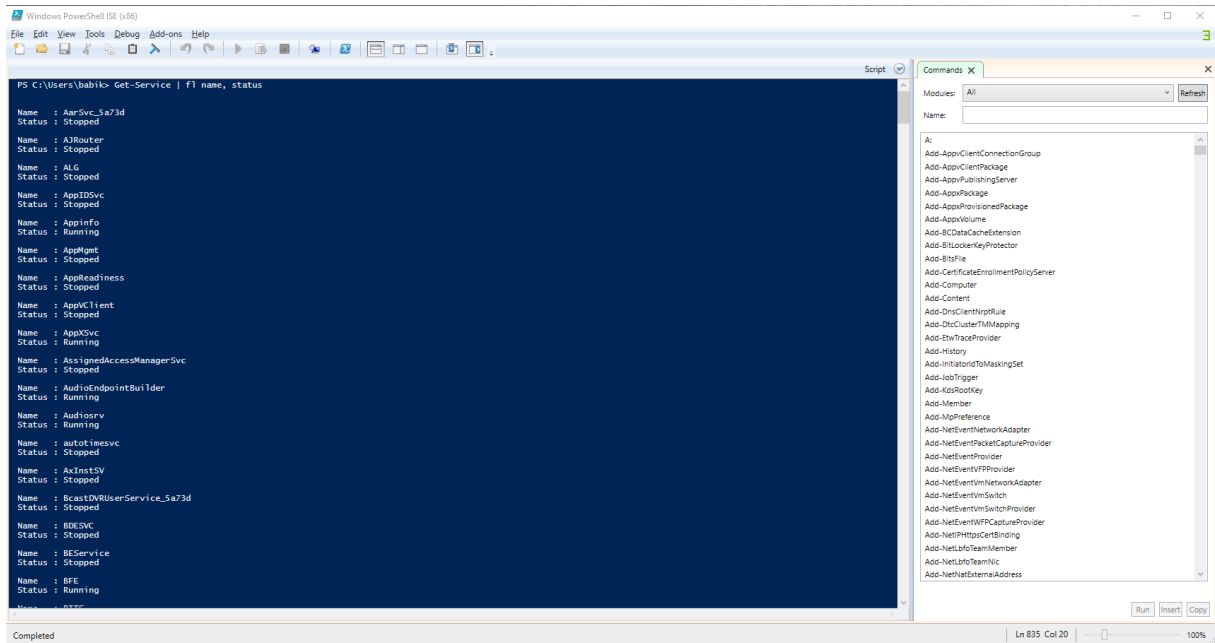


The screenshot shows the Windows PowerShell ISE interface. The main console area displays the output of the command `Get-Date`, which returns the current date and time: `2021. március 3., szerda 13:13:39`. The command prompt is `PS C:\Users\babik>`. The right-hand pane shows the 'Commands' window with a list of available cmdlets, including `Add-AppClientConnectionGroup`, `Add-AppClientPackage`, `Add-AppPublishingServer`, `Add-AppPackage`, `Add-AppProvisionedPackage`, `Add-AppVolume`, `Add-BCDataCacheExtension`, `Add-BitLockerKeyProtector`, `Add-BitsFile`, `Add-CertificateEnrollmentPolicyServer`, `Add-Computer`, `Add-Content`, `Add-DnsClientNtpRule`, `Add-DtcClusterTMMapping`, `Add-EtwTraceProvider`, `Add-History`, `Add-IntendToMaskingSet`, `Add-JobTrigger`, `Add-KdsRootKey`, `Add-Member`, `Add-NetEventNetworkAdapter`, `Add-NetEventPacketCaptureProvider`, `Add-NetEventProvider`, `Add-NetEventVFPProvider`, `Add-NetEventVmNetworkAdapter`, `Add-NetEventVmSwitch`, `Add-NetEventVmSwitchProvider`, `Add-NetEventWFPProvider`, `Add-NetEventWFPProvider`, `Add-NetPHttpsCertBinding`, `Add-NetInfoTeamMember`, `Add-NetInfoTeamNIC`, and `Add-NetNatExternalAddress`. The status bar at the bottom indicates 'Completed' and 'Ln 7 Col 20'.

```
PS C:\Users\babik> Get-Date
2021. március 3., szerda 13:13:39

PS C:\Users\babik>
```

### 3. feladat – Szolgáltatások



The screenshot shows the Windows PowerShell ISE interface. The main console window displays the output of the command `Get-Service | fl name, status`. The output lists various services and their current status. The right-hand pane shows the 'Commands' window with a list of available cmdlets.

```
PS C:\Users\babiko> Get-Service | fl name, status

Name       : AarSvc_Sa73d
Status      : Stopped

Name       : AJRouter
Status      : Stopped

Name       : ALG
Status      : Stopped

Name       : AppIDSvc
Status      : Stopped

Name       : AppInfo
Status      : Running

Name       : AppMgmt
Status      : Stopped

Name       : AppReadiness
Status      : Stopped

Name       : AppVClient
Status      : Stopped

Name       : AppXSvc
Status      : Running

Name       : AssignedAccessManagerSvc
Status      : Stopped

Name       : AudioEndpointBuilder
Status      : Running

Name       : Audiosrv
Status      : Running

Name       : autotimesvc
Status      : Stopped

Name       : AxInstSV
Status      : Stopped

Name       : BcastDVDUserService_Sa73d
Status      : Stopped

Name       : BDCSvc
Status      : Stopped

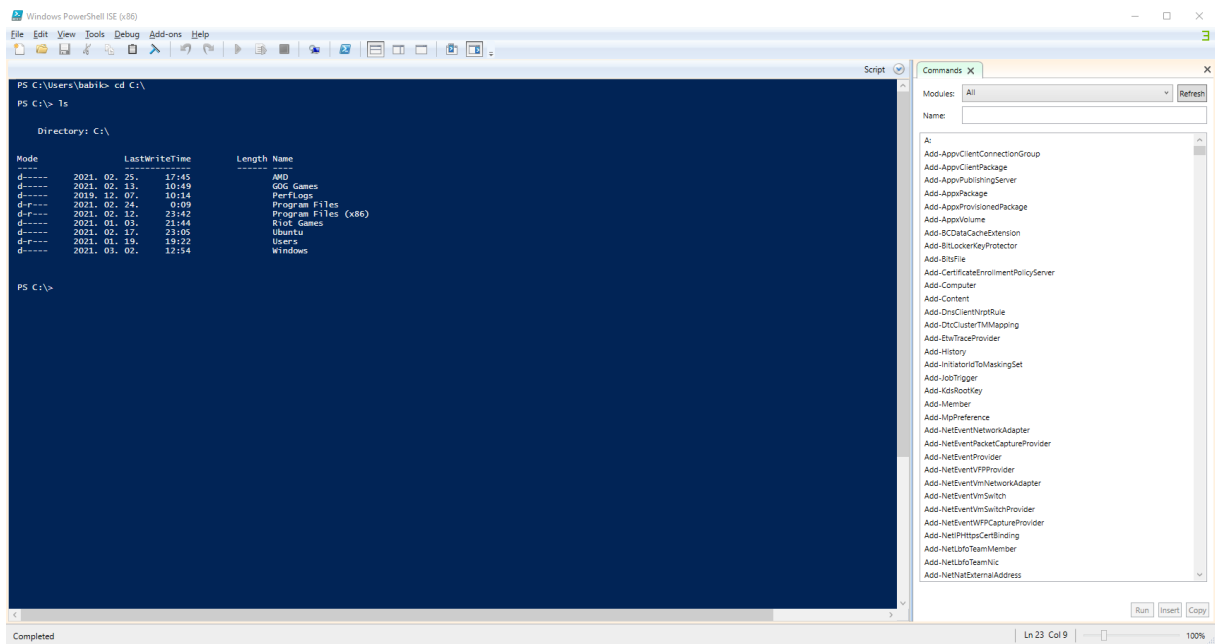
Name       : BEService
Status      : Stopped

Name       : BFE
Status      : Running

Name       : BFE
Status      : Running
```

Completed

### 4. feladat – C meghajtó könyvtárak



The screenshot shows the Windows PowerShell ISE interface. The main console window displays the output of the command `ls` in the `C:\` directory. The output shows a list of files and directories with their mode, last write time, length, and name. The right-hand pane shows the 'Commands' window with a list of available cmdlets.

```
PS C:\Users\babiko> cd C:\
PS C:\> ls

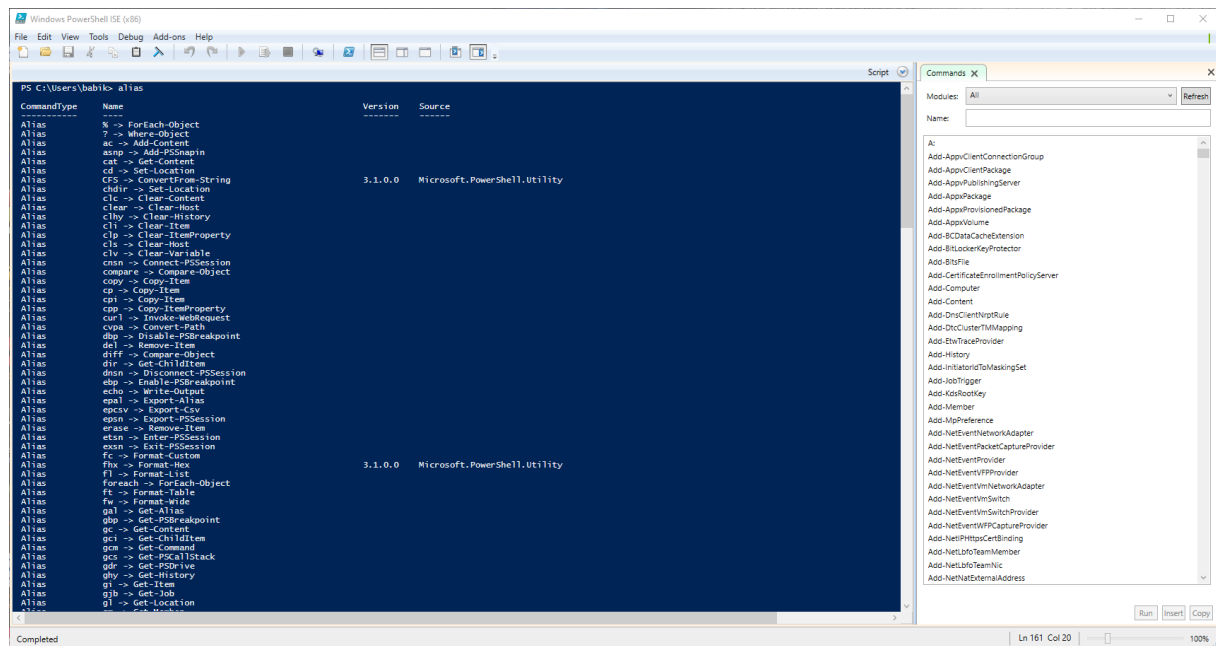
Directory: C:\

Mode                LastWriteTime         Length Name
----                -
d-----          2021. 02. 25.   17:55           AND
d-----          2021. 02. 13.   10:49           GOG Games
d-----          2019. 12. 07.   10:14           PerfLogs
d-r-----        2021. 02. 24.    0:09       Program Files
d-r-----        2021. 02. 12.   23:42       Program Files (x86)
d-----          2021. 01. 03.   21:44       Robo Games
d-----          2021. 02. 17.   23:05       Ubuntu
d-r-----        2021. 01. 19.   19:22       Users
d-----          2021. 03. 02.   12:14       Windows

PS C:\>
```

Completed

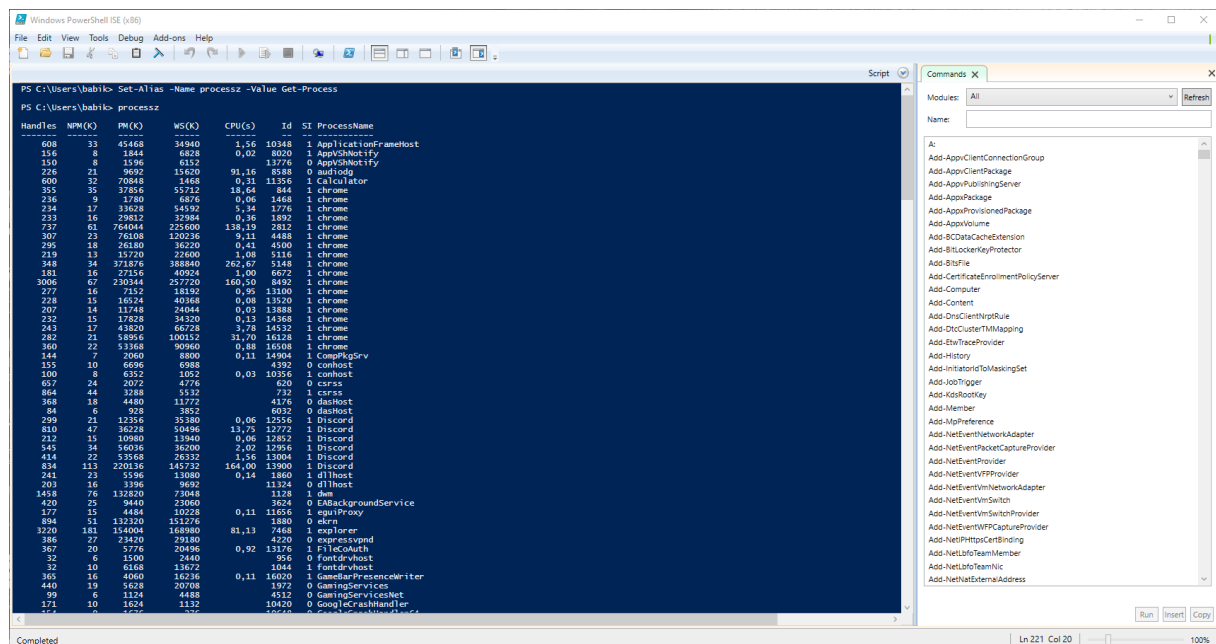
## 5. feladat – Rövidített nevek (alias)



The screenshot shows the Windows PowerShell ISE interface. The main window displays a list of aliases under the heading "PS C:\Users\babiko> alias". The list is organized into columns: CommandType, Name, Version, and Source. The aliases are grouped by their source, with "Microsoft.PowerShell.Utility" being the most common.

CommandType	Name	Version	Source
Alias	% -> ForEach-Object		
Alias	? -> Where-Object		
Alias	ac -> Add-Content		
Alias	acn -> Add-Content		
Alias	asnp -> Add-PSNapin		
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	cli -> Clear-ItemProperty		
Alias	cls -> Clear-Host		
Alias	clv -> Clear-Variable		
Alias	csmn -> Connect-PSession		
Alias	compare -> Compare-Object		
Alias	copy -> Copy-Item		
Alias	cp -> Copy-Item		
Alias	cp -> Copy-Item		
Alias	cp -> Copy-ItemProperty		
Alias	curl -> Invoke-WebRequest		
Alias	cvpa -> Convert-Path		
Alias	del -> Remove-Item		
Alias	diff -> Compare-Object		
Alias	dir -> Get-Childitem		
Alias	dismn -> Disconnect-PSession		
Alias	ebp -> Enable-PSBreakpoint		
Alias	echo -> Write-Output		
Alias	epal -> Export-Alias		
Alias	epcsv -> Export-Csv		
Alias	epsn -> Export-PSession		
Alias	erase -> Remove-Item		
Alias	etsn -> Enter-PSession		
Alias	esn -> Exit-PSession		
Alias	fc -> Format-Custom	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	gdb -> Get-PSBreakpoint		
Alias	gc -> Get-Content		
Alias	gcl -> Get-Childitem		
Alias	gcm -> Get-Command		
Alias	gcs -> Get-PSCallStack		
Alias	gdr -> Get-PSDrive		
Alias	ghy -> Get-History		
Alias	gi -> Get-Item		
Alias	gjb -> Get-Job		
Alias	gl -> Get-Location		
Alias	gm -> Get-Member		

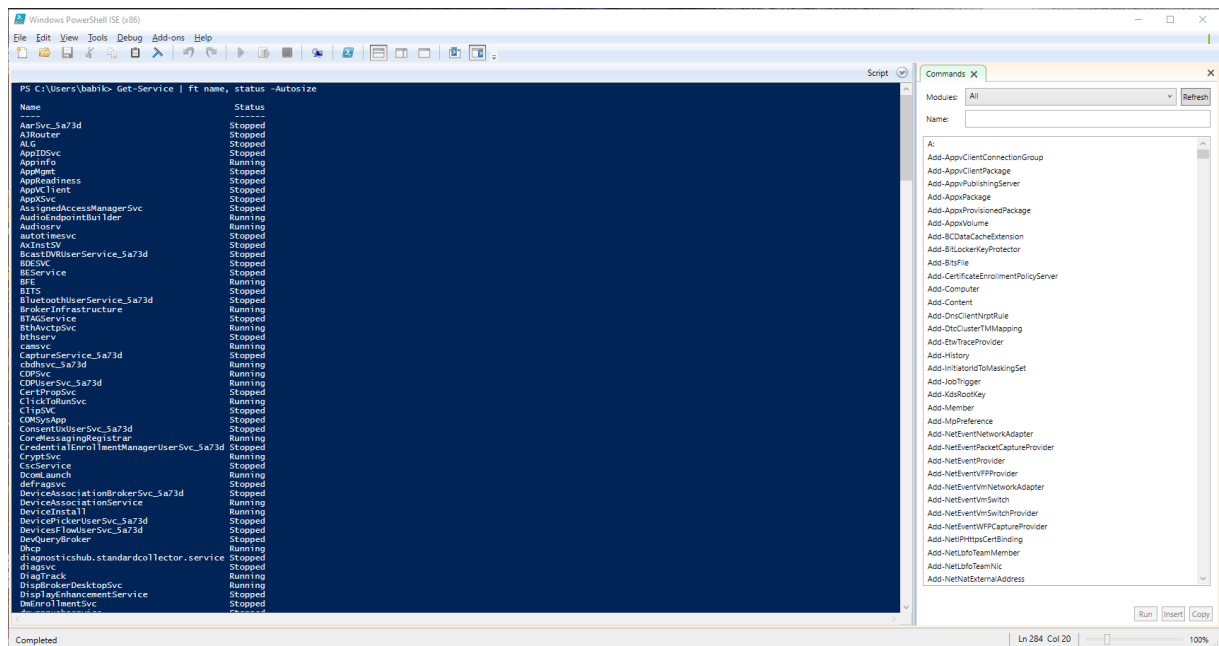
## 6. feladat – Processz nevű alias létrehozása, futtatása



The screenshot shows the Windows PowerShell ISE interface. The main window displays the output of the command "PS C:\Users\babiko> Set-Alias -Name processz -Value Get-Process". The output is a table showing the details of running processes.

Handles	NPM(K)	PM(K)	WS(K)	CPU(s)	Id	SI	ProcessName
608	33	45468	34940	1.56	10348	1	ApplicationFrameHost
156	8	1844	6828	0.02	8020	1	AppVShimify
1510	8	1596	6812	0.00	13716	0	AppVShimify
226	21	9692	15620	91.16	8588	0	audiodg
600	32	70848	1468	0.31	11356	1	Calculator
355	35	37816	5572	18.64	844	1	chrome
236	9	1780	6876	0.06	1468	1	chrome
234	17	33628	5492	5.34	1276	1	chrome
233	16	29812	32984	0.36	1892	1	chrome
237	61	76404	22500	138.19	2812	1	chrome
307	23	76108	120236	9.11	4488	1	chrome
295	18	26180	36220	0.41	4500	1	chrome
219	13	15720	27400	1.98	5116	1	chrome
348	34	371876	388840	262.67	5148	1	chrome
181	16	27516	40824	1.90	6672	1	chrome
3006	67	230344	257720	160.50	8492	1	chrome
277	16	7152	18192	0.36	31800	1	chrome
228	15	16524	40368	0.08	13520	1	chrome
207	14	11748	24044	0.03	13888	1	chrome
232	15	17828	34320	0.13	14368	1	chrome
243	17	43820	66728	3.78	14532	1	chrome
282	21	58916	100152	31.20	16128	1	chrome
160	22	53368	90960	0.88	16508	1	chrome
144	7	2060	8800	0.11	14904	1	CompMgrSvc
155	10	6696	6988	4.92	4392	0	conhost
100	8	6352	1052	0.03	10356	1	conhost
157	24	2072	4776	620	420	0	csrss
864	44	3288	5532	732	732	1	csrss
168	18	4480	11772	4176	6032	0	dashost
84	6	928	3852	0.06	12556	1	Discord
299	21	12356	35380	13.75	12772	1	Discord
810	47	36228	50496	0.06	12852	1	Discord
212	15	10980	13940	2.02	12856	1	Discord
545	34	56036	36200	1.26	13004	1	Discord
414	22	53568	26332	164.00	13900	1	Discord
134	113	220136	145232	0.14	1860	0	dllhost
241	23	5596	13080	1128	1128	1	dwm
203	16	3396	9692	3624	3624	0	EASBackgroundService
1458	76	132820	73948	0.11	11656	1	explorer
420	25	9440	23060	1880	1880	0	expressvpn
177	15	4484	10228	81.13	7468	1	Fontdrvhost
894	51	132320	151276	0.92	13176	1	Fontdrvhost
3120	181	154004	168880	956	956	0	Fontdrvhost
386	27	23420	29180	1044	1044	1	Fontdrvhost
267	20	5776	20496	0.11	11600	1	GamingServices
32	6	1500	2440	1972	1972	0	GamingServices
37	10	6168	13672	4512	4512	0	GamingServices
305	18	4060	16236	10420	10420	0	GamingServices
440	19	1628	20708	568	568	0	GamingServices
99	6	1124	4488	568	568	0	GamingServices
171	10	1624	1132	568	568	0	GamingServices

## 7. feladat – Szolgáltatások listázása formázva



Windows PowerShell ISE (v6.0)

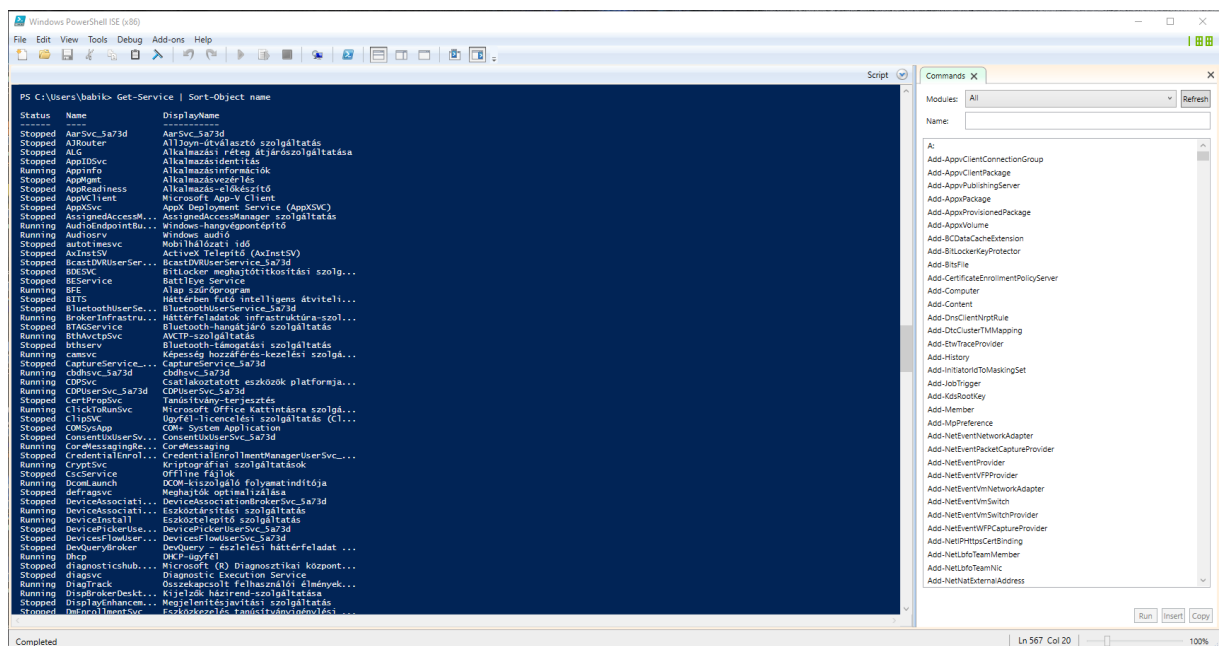
```
PS C:\Users\babiko> Get-Service | ft name, status -AutoSize
```

Name	Status
AarSvc_Sa73d	Stopped
AIRouter	Stopped
ALG	Stopped
AppIDSvc	Stopped
AppInfo	Running
AppKmt	Stopped
AppReadiness	Stopped
AppXClient	Stopped
AppXSvc	Stopped
AssignedAccessManagerSvc	Stopped
AudioEndpointBuilder	Running
Audiosrv	Running
autotimesvc	Stopped
AxInstSV	Stopped
BcastDVRUserService_Sa73d	Stopped
BESvc	Stopped
BEService	Running
BFE	Running
BITS	Stopped
BluetoothUserService_Sa73d	Stopped
BrokerInfrastructure	Running
BTAGService	Running
BthAvctpSvc	Running
bthserv	Running
camsvc	Running
CaptureService_Sa73d	Stopped
cdmSvc_Sa73d	Running
CDPSvc	Running
CDPSvc_Sa73d	Running
CDPSvc_Sa73d	Stopped
CertPropSvc	Running
ClickToRunSvc	Stopped
ClipSVC	Stopped
COMSysApp	Stopped
ConsentUserSvc_Sa73d	Running
CoreMessagingRegistrar	Running
CredentialEnrollmentManagerUserSvc_Sa73d	Running
CryptSvc	Running
CsService	Running
DcomLaunch	Running
defragvc	Running
DeviceAssociationBrokerSvc_Sa73d	Stopped
DeviceAssociationService	Running
DeviceInstall	Running
DevicePickerUserSvc_Sa73d	Stopped
DeviceFlowUserSvc_Sa73d	Stopped
DevQueryBroker	Stopped
Dhcp	Running
diagnosticshub.standardcollector.service	Running
diagvc	Stopped
DiagTrack	Running
DisplayBrokerDesktopSvc	Running
DisplayEnhancementService	Running
DedupClientSvc	Stopped
DismHost	Running

Completed

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## 8. feladat – Név szerinti sorba rendezése az objektumoknak



Windows PowerShell ISE (v6.0)

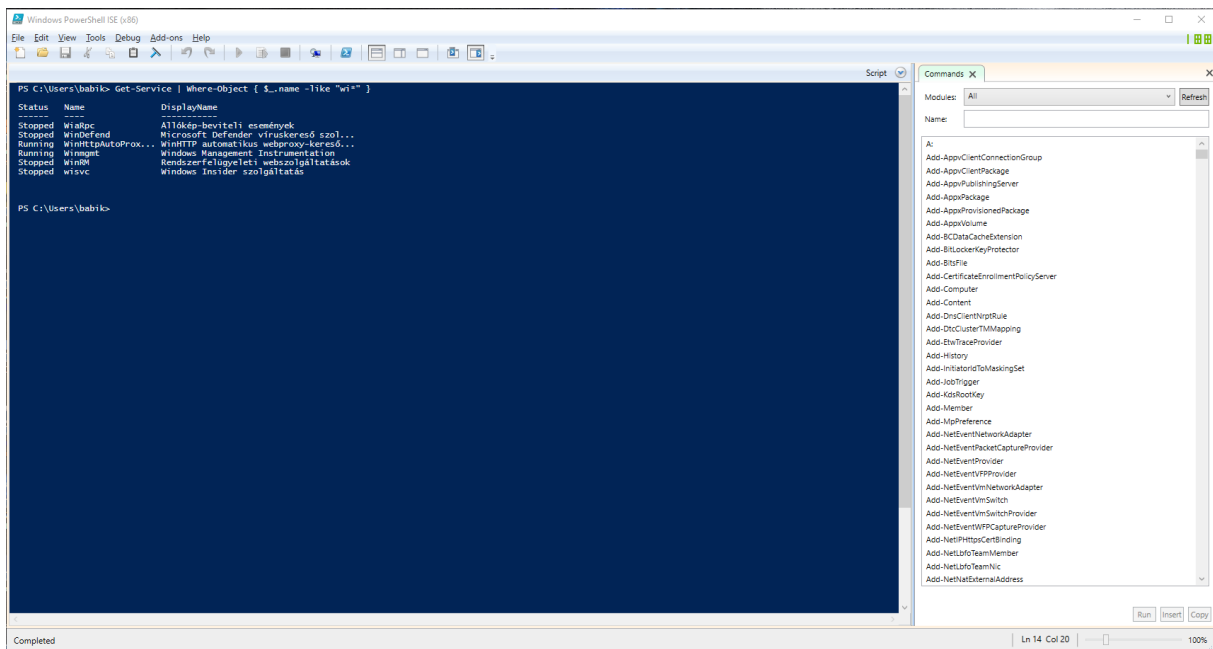
```
PS C:\Users\babiko> Get-Service | Sort-Object name
```

Status	Name	DisplayName
Stopped	AarSvc_Sa73d	AarSvc_Sa73d
Stopped	AIRouter	Alltörns-díjazástó szolgáltatás
Stopped	ALG	Alkalmazási réteg átjárószolgáltatása
Stopped	AppIDSvc	Alkalmazás-identitás
Running	AppInfo	Alkalmazásinformációk
Stopped	AppKmt	Alkalmazáskezelő fel
Stopped	AppReadiness	Alkalmazás-előkészítő
Stopped	AppXClient	Microsoft App-V Client
Stopped	AppXSvc	AppX Deployment Service (AppXVC)
Running	AssignedAccessM...	AssignedAccessManager szolgáltatás
Running	AudioEndpointBu...	Windows hangvevőpont-építő
Running	Audiosrv	Windows audió
Stopped	autotimesvc	Modellinformatika
Stopped	AxInstSV	ActiveX telepítő (AxInstSV)
Stopped	BcastDVRUserSe...	BcastDVRUserService_Sa73d
Stopped	BESvc	Bluetooth hangátviteli szolgáltatás
Running	BEService	Bluetooth meghajtótípusosítási szolg...
Running	BFE	Alap szűrőprogram
Stopped	BITS	Háttérben futó intelligens átviteli...
Stopped	BluetoothUserSe...	BluetoothUserService_Sa73d
Running	BrokerInfrastru...	Háttérfeladatok infrastruktúra-szolg...
Stopped	BTAGService	Bluetooth-hangátjáró szolgáltatás
Running	BthAvctpSvc	ACCTP szolgáltatás
Running	bthserv	Bluetooth-kapcsolati szolgáltatás
Running	camsvc	Képeség hozzáféréskészítési szolgab...
Stopped	CaptureService...	CaptureService_Sa73d
Running	cdmSvc_Sa73d	cdmSvc_Sa73d
Running	CDPSvc	Csatlakoztatott eszközök platformja...
Running	CDPSvc_Sa73d	CDPSvc_Sa73d
Running	CDPSvc_Sa73d	Tanúsítványterjesztés
Running	CertPropSvc	Microsoft Office Kattintásra szolgab...
Running	ClipSVC	Úgyfél-licenclési szolgáltatás (Cl...
Stopped	COMSysApp	COM System Application
Stopped	ConsentUserSvc...	ConsentUserSvc_Sa73d
Running	CoreMessaging	CoreMessaging
Stopped	CredentialEnrol...	CredentialEnrollmentManagerUserSvc...
Running	CryptSvc	Kriptográfiai szolgáltatások
Running	CsService	Offline fájlok
Running	DcomLaunch	Dcom-kiszolgáló folyamatindítója
Stopped	defragvc	Meghajtók optimalizálása
Stopped	DeviceAssociati...	DeviceAssociationBrokerSvc_Sa73d
Running	DeviceAssociation...	DeviceAssociationService
Running	DeviceInstall	Eszköztelepítő szolgáltatás
Stopped	DevicePickerUs...	DevicePickerUserSvc_Sa73d
Running	DeviceFlowUser...	DeviceFlowUserSvc_Sa73d
Stopped	DevQueryBroker	DevQuery - észlelési háttérfeladat ...
Running	Dhcp	DHCP-ugyfél
Running	diagnosticshub...	Microsoft (®) Diagnosztikai központ...
Running	diagvc	Diagnostic Execution Service
Running	DiagTrack	Összekapcsolt felhasználói elemek...
Running	DisplayBrokerDes...	Kijelzőhálózati szolgáltatás
Running	DisplayEnhancem...	Megjelentéskészítési szolgáltatás
Running	DismHost	Funkciókészítés-feladatkezelési fel...

Completed

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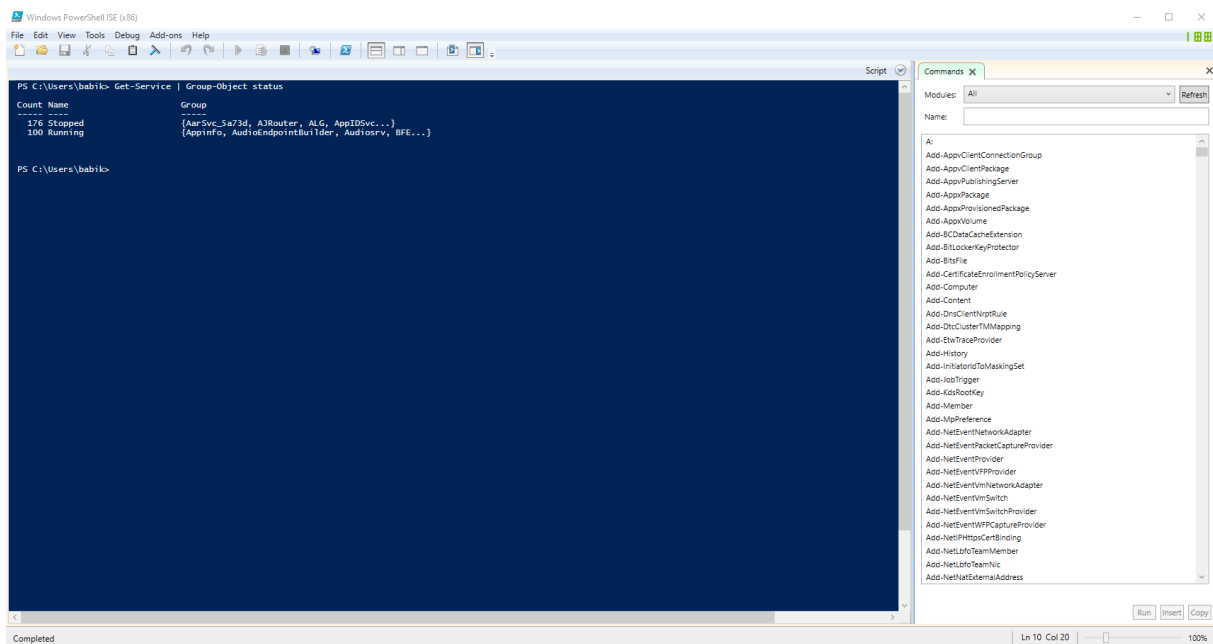
## 9. feladat – Lekérdezni a „wi” kezdőbetűs szolgáltatásokat



The screenshot shows the Windows PowerShell ISE interface. The command prompt displays the command `Get-Service | Where-Object { $_.Name -like "wi*" }`. The output is a table of services starting with 'wi'.

Status	Name	DisplayName
Stopped	WiaRpc	Állókép-beviteli események
Stopped	WinDefend	Microsoft Defender víruskereső szol...
Running	WinHttpAutoProx...	WinHTTP automatikus webproxy-kereső...
Running	Winmgmt	Windows Management Instrumentation
Stopped	WinRM	Rendszerteljesítményi webzolgáltatások
Stopped	Wscntfy	Windows Insider szolgáltatás

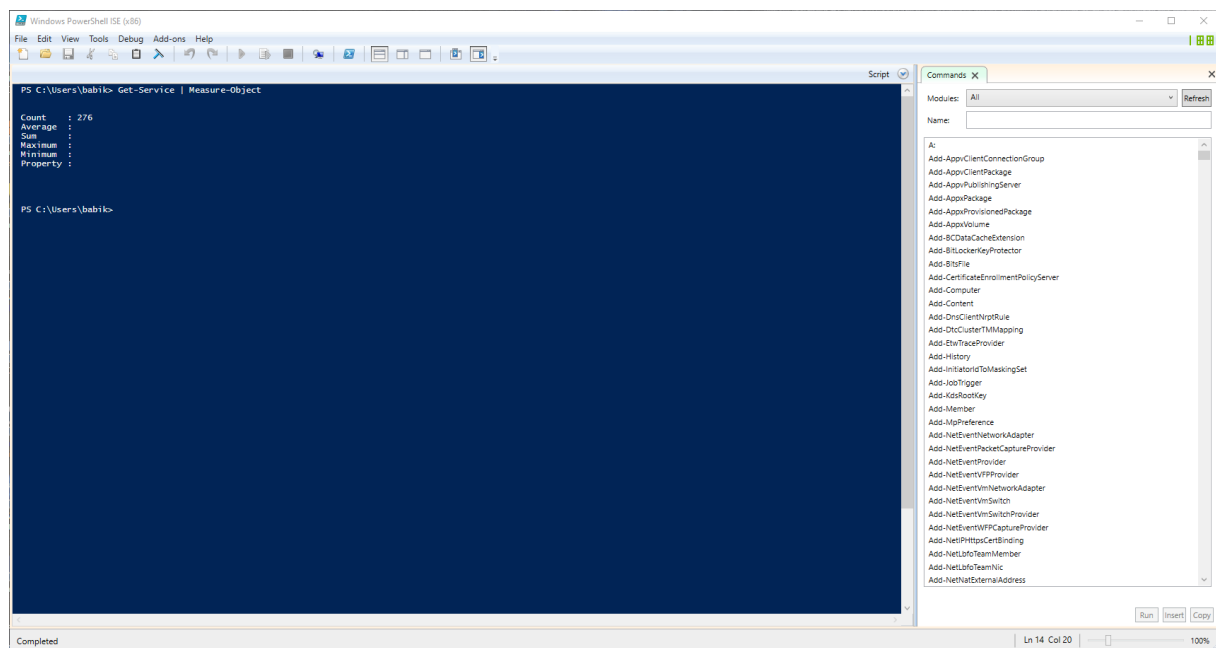
## 10. feladat – Állapot szerinti csoportosítása a szolgáltatásoknak



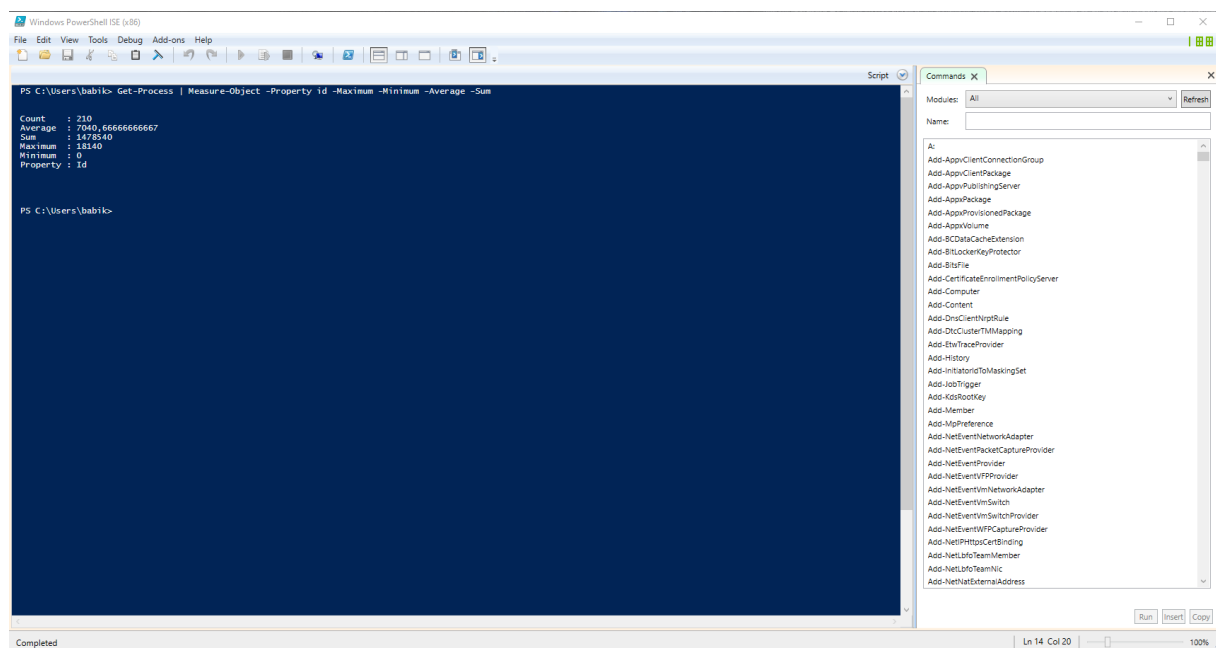
The screenshot shows the Windows PowerShell ISE interface. The command prompt displays the command `Get-Service | Group-Object status`. The output is a table of services grouped by their status.

Count	Name	Group
176	Stopped	{AarSvc_Sa73d, A3Router, ALG, AppIDSvc...}
100	Running	{AppInfo, AudioEndpointBuilder, Audiosrv, BFE...}

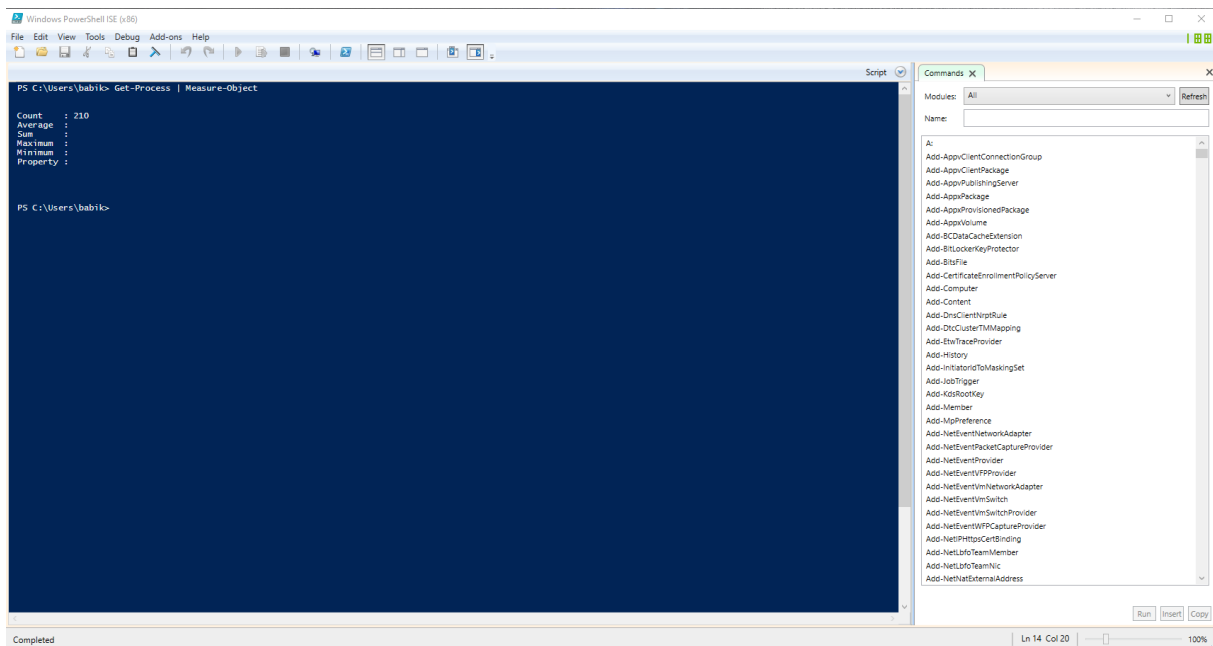
### 11. feladat – Objektumok megszámlálása



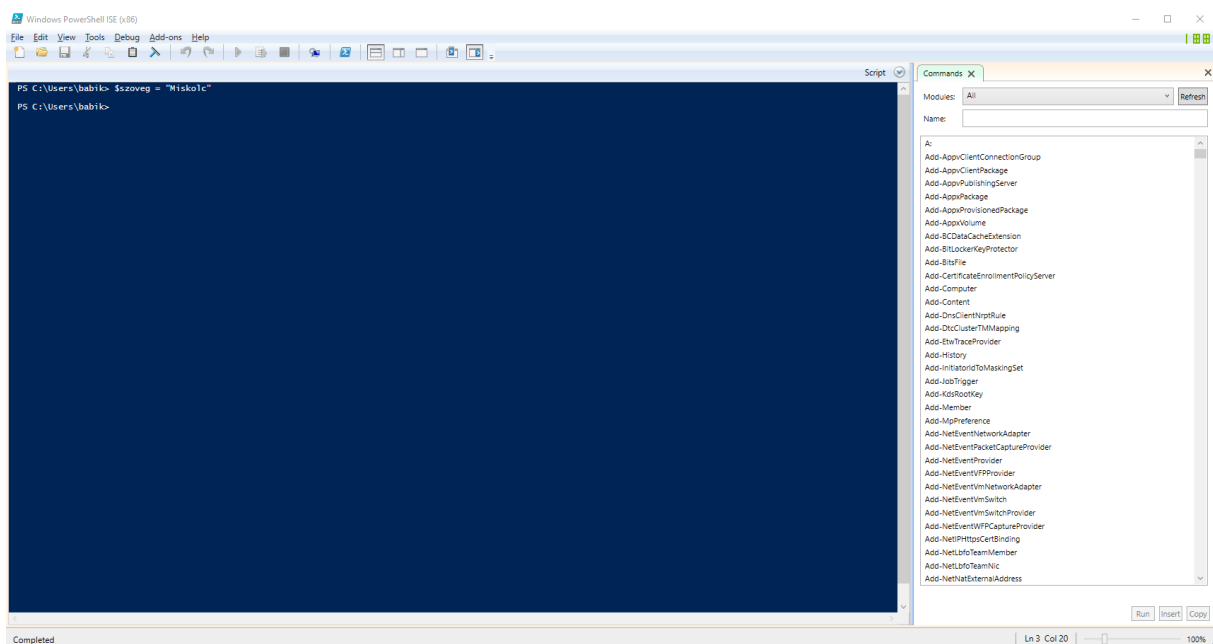
## 12. feladat – Objektumok megszámlálása szempontok szerint



### 13. feladat – Objektumok megszámlolása

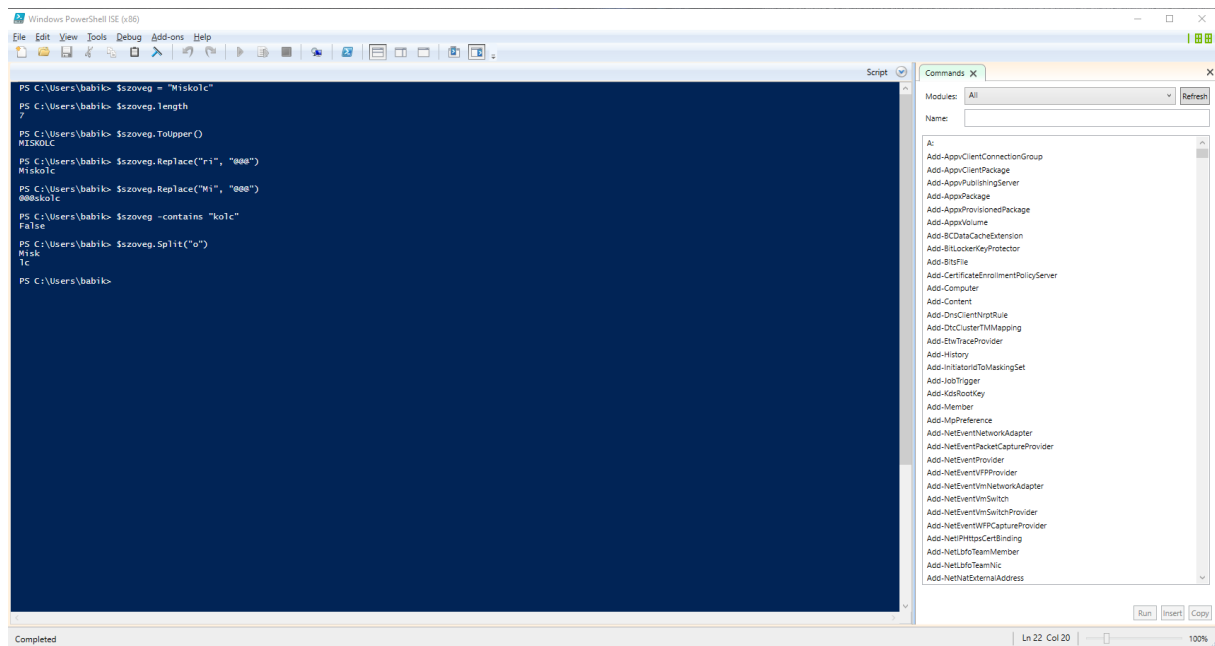


#### 14. feladat – Szoveg nevű változó létrehozása Miskolc értékkel





## 15. feladat – Műveletek az imént létrehozott változóval

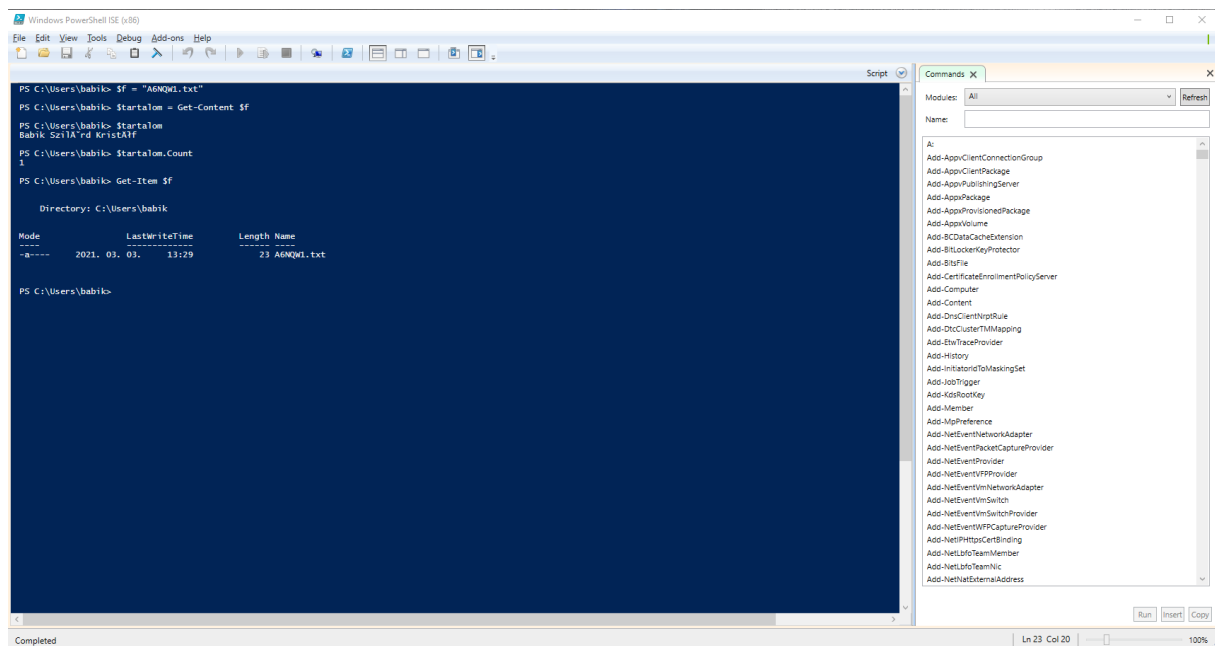


```
PS C:\Users\babik> $szoveg = "Miskolc"
PS C:\Users\babik> $szoveg.Length
7
PS C:\Users\babik> $szoveg.ToUpper()
MISKOLC
PS C:\Users\babik> $szoveg.Replace("r", "000")
Misk0lc
PS C:\Users\babik> $szoveg.Replace("Mi", "000")
000sk0lc
PS C:\Users\babik> $szoveg -contains "kolc"
False
PS C:\Users\babik> $szoveg.Split("o")
Misk
lc
PS C:\Users\babik>
```

Completed

Ln 22 Col 20 100%

## 16. feladat – Fájelkezelés



```
PS C:\Users\babik> $f = "A6NQW1.txt"
PS C:\Users\babik> $tartalom = Get-Content $f
PS C:\Users\babik> $tartalom
Babik Szilárd Kristóf
PS C:\Users\babik> $tartalom.Count
1
PS C:\Users\babik> Get-Item $f

Directory: C:\Users\babik

Mode                LastWriteTime         Length Name
----                -
-a-----         2021. 03. 03.          23 A6NQW1.txt

PS C:\Users\babik>
```

Completed

Ln 23 Col 20 100%