

# **Operációs rendszerek BSc**

**1. Gyak.**

**2022. 03. 07.**

**Készítette:**

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Mérnökinformatikus  
VN7XCW

**Miskolc, 2022**

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

```
PS C:\Users\istva> Get-Process | Measure-Object -Property id -Maximum -Minimum -Average -Sum
```

```
Count      : 220
Average    : 9175,96363636364
Sum        : 2018712
Maximum    : 23236
Minimum    : 0
Property   : Id
```

```
PS C:\Users\istva>
```

```
PS C:\Users\istva> Get-Process | ForEach-Object { $_.id*2 }
11680
43424
2368
7984
8000
8024
6816
26256
41160
7968
27448
8040
8152
8096
24672
4520
35936
3072
6624
8616
8872
12712
24240
24848
34512
34576
36256
42472
45744
12856
32744
38600
4344
1624
42944
10512
12200
23216
37128
14512
13944
33032
2336
45512
24248
24360
8304
0
14248
1920
5744
44704
```

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

Count Name Group
-----
128 Running {AarSvc_a53e748, AMD External Events Utility, Appinfo, AppXSvc...}
163 Stopped {AJRouter, ALG, AppIDSvc, AppMgmt...}
```

```
PS C:\Users\istva>
```

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

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

Status	Name	DisplayName
Stopped	W32Time	Windows Time

```
PS C:\Users\istva>
```

#### Windows PowerShell

581	46	28944	25468	0,83	22352	8	Microsoft.Photos
0	0	684	148352		2872	0	Memory Compression
1835	33	12220	29576		960	0	lsass
572	31	15884	54432	1,66	7124	8	LockApp
0	0	60	8		0	0	Idle
786	17	6756	14028		4152	0	HPPrintScanDoctorService
171	10	1836	1024		12180	0	GoogleCrashHandler64
189	12	1820	1616		12124	0	GoogleCrashHandler
33	6	1784	3528		1168	0	fontdrvhost
33	8	3460	8724		22756	8	fontdrvhost
214	14	4060	19460	1,64	16516	8	FileCoAuth
3571	127	155096	227868	107,03	6972	8	explorer
1431	80	199824	120216		7256	8	dwm
204	19	3860	11120		11608	0	dllhost
2305	27	8376	18356	4,39	18564	8	dllhost
397	21	5228	14316		5256	0	dasHost
92	6	980	4560		6100	0	dasHost
657	27	2084	6428		812	0	csrss
595	24	9852	7056		21472	8	csrss
454	17	4124	21304	3,75	2172	8	ctfmon
725	52	29904	65760	1,92	19300	8	Cortana
258	14	13332	26452	6,31	6428	8	conhost
117	8	5552	1456	0,09	16372	8	conhost
255	16	25468	58288	1,13	4436	8	chrome
210	16	21588	38604	1,53	6356	8	chrome
248	15	21156	56316	0,73	12120	8	chrome
1411	50	124336	204176	30,97	1536	8	chrome
247	15	48484	84972	5,38	3312	8	chrome
216	14	7252	18512	0,23	4308	8	chrome
350	18	59844	102972	11,58	18128	8	chrome
305	19	15176	38024	4,64	21236	8	chrome
222	15	12772	28240	0,19	22872	8	chrome
290	17	25472	84484	20,30	12424	8	chrome
187	10	1924	7960	0,02	17256	8	chrome
743	33	184224	182380	20,41	17288	8	chrome
773	25	66804	60360	1,77	17968	0	audiodg
177	9	1692	6024		2260	0	atiesrxx
276	13	2644	12360		12336	8	atieclxx
150	9	1876	8060		4048	0	AsusSystemDiagnosis
2080	21	4076	13856		4076	0	AsusSystemAnalysis
186	11	2360	8732		4020	0	AsusSwitch
454	22	32944	32484	0,33	13724	8	AsusSoftwareManagerAgent
582	20	10540	19080		3984	0	AsusSoftwareManager
168	15	3332	14504	0,22	20580	8	AsusOSD
297	15	3024	16520	0,20	13128	8	AsusOptimizationStartupTask
167	10	2124	7288		3408	0	AsusOptimization
199	12	5928	8908		4012	0	AsusLinkRemote
349	17	3880	12152		4000	0	AsusLinkNear
325	18	6064	21652		3992	0	AsusAppService
152	8	1580	7560		1184	0	AppVShNotify
597	32	27732	45160	3,52	21712	8	ApplicationFrameHost
88	6	1440	5852		5840	0	AggregatorHost

```
PS C:\Users\istva>
```

285	14	3336	20752	0,59	1136	8	svchost
543	15	4504	16512		808	0	svchost
224	13	3820	13416		1060	0	svchost
400	11	3108	9036		1324	0	svchost
542	10	2456	12360		1588	0	svchost
373	12	3000	9056		1716	0	svchost
207	12	9592	10472		1580	0	svchost
418	19	6976	17128		1560	0	svchost
270	14	2812	10456		1568	0	svchost
204	11	2512	9656		2648	0	svchost
273	15	3740	15972		3824	0	svchost
363	30	8696	17552		3976	0	svchost
174	11	1876	7384		3696	0	svchost
137	10	2224	13768	0,19	3520	8	svchost
471	34	13076	21284		3652	0	svchost
233	11	2548	9360		4028	0	svchost
373	22	3040	10764		4212	0	svchost
237	14	3036	11352		4284	0	svchost
274	15	2936	7956		4164	0	svchost
583	24	19556	32704		4040	0	svchost
387	23	25160	37228		4056	0	svchost
181	13	1984	8436		2912	0	svchost
290	11	2500	9536		2948	0	svchost
179	10	2092	7712		2760	0	svchost
238	13	4588	14536		2744	0	svchost
241	8	1312	5704		2748	0	svchost
176	11	2240	8520		2956	0	svchost
581	27	8284	21012		3352	0	svchost
253	17	4276	15028		3400	0	svchost
434	16	9096	19164		3328	0	svchost
445	14	3448	10244		3108	0	svchost
159	9	2024	6600		3116	0	svchost
6232	0	44	3264		4	0	System
1163	62	40544	2344	2,84	8660	8	SystemSettings
559	25	8196	34608	3,22	18904	8	SystemSettingsBroker
288	55	13992	24840	2,23	3456	8	taskhostw
121	8	1388	7828		8456	0	unsecapp
125	10	1940	10092	0,03	12268	8	User00BEBroker
192	10	2048	11152		13556	0	VBoxSDS
1055	18	7880	24188	0,61	5508	8	VBoxSVC
504	22	61036	103496	12,34	20960	8	VirtualBox
69	4	1084	8204	0,16	22344	8	VirtualBoxVM
76	4	1996	4832	0,20	17892	8	VirtualBoxVM
1656	178	167828	159196	94,70	2032	8	VirtualBoxVM
750	29	8016	39020	8,00	21920	8	Widgets
253	29	8728	24668	0,13	21292	8	Win32Bridge.Server
170	10	1652	6800		4628	0	WindscribeService
166	11	1472	6880		948	0	wininit
279	13	2644	14484		8108	8	winlogon
203	14	3432	11044		3872	0	WmiPrvSE
1006	54	31692	25524	3,75	9452	8	YourPhone
1268	67	77432	95788	23,05	21264	8	YourPhoneServer

PS C:\Users\istva>

Windows PowerShell

vmicheartbeat	Stopped
vmickvpexchange	Stopped
vmicrdv	Stopped
vmictimesync	Stopped
vmicvmssession	Stopped
vmicvss	Stopped
vmicshutdown	Stopped
VSS	Stopped
VSSStandardCollectorService150	Stopped
W32Time	Stopped
WaaSMedicSvc	Stopped
WalletService	Stopped
WarpJITSvc	Stopped
wbengine	Stopped
WbioSrv	Stopped
Wcmsvc	Running
wcncsvc	Running
WdiServiceHost	Stopped
WdiSystemHost	Stopped
WdNisSvc	Running
WebClient	Running
Wecsvc	Stopped
WEPHOSTSVC	Stopped
wercplsupport	Stopped
WerSvc	Stopped
WFDSConMgrSvc	Stopped
WiaRpc	Stopped
WinDefend	Running
WindscribeService	Running
WinHttpAutoProxySvc	Running
Winmgmt	Running
WinRM	Stopped
wisvc	Stopped
WlanSvc	Running
wlidsvc	Running
wlpasvc	Stopped
WManSvc	Stopped
wmiApSrv	Stopped
WMPNetworkSvc	Stopped
workfolderssvc	Stopped
WpcMonSvc	Stopped
WPDBusEnum	Stopped
WpnService	Running
WpnUserService_a53e748	Running
wscsvc	Running
WSearch	Running
wuauserv	Stopped
WwanSvc	Stopped
XblAuthManager	Running
XblGameSave	Stopped
XboxGipSvc	Running
XboxNetApiSvc	Stopped

PS C:\Users\istva>

Windows PowerShell

vmicheartbeat	Stopped
vmickvpexchange	Stopped
vmicrdv	Stopped
vmictimesync	Stopped
vmicvmssession	Stopped
vmicvss	Stopped
vmicshutdown	Stopped
VSS	Stopped
VSSStandardCollectorService150	Stopped
W32Time	Stopped
WaaSMedicSvc	Stopped
WalletService	Stopped
WarpJITSvc	Stopped
wbengine	Stopped
WbioSrv	Stopped
Wcmsvc	Running
wcncsvc	Running
WdiServiceHost	Stopped
WdiSystemHost	Stopped
WdNisSvc	Running
WebClient	Running
Wecsvc	Stopped
WEPHOSTSVC	Stopped
wercplsupport	Stopped
WerSvc	Stopped
WFDSConMgrSvc	Stopped
WiaRpc	Stopped
WinDefend	Running
WindscribeService	Running
WinHttpAutoProxySvc	Running
Winmgmt	Running
WinRM	Stopped
wisvc	Stopped
WlanSvc	Running
wlidsvc	Running
wlpasvc	Stopped
WManSvc	Stopped
wmiApSrv	Stopped
WMPNetworkSvc	Stopped
workfoldersvc	Stopped
WpcMonSvc	Stopped
WPDBusEnum	Stopped
WpnService	Running
WpnUserService_a53e748	Running
wscsvc	Running
WSearch	Running
wuauserv	Stopped
WwanSvc	Stopped
XblAuthManager	Running
XblGameSave	Stopped
XboxGipSvc	Running
XboxNetApiSvc	Stopped

PS C:\Users\istva>

```
Name : wlpasvc
Status : Stopped

Name : WManSvc
Status : Stopped

Name : wmiApSrv
Status : Stopped

Name : WMPNetworkSvc
Status : Stopped

Name : workfolderssvc
Status : Stopped

Name : WpcMonSvc
Status : Stopped

Name : WPDBusEnum
Status : Stopped

Name : WpnService
Status : Running

Name : WpnUserService_a53e748
Status : Running

Name : wscsvc
Status : Running

Name : WSearch
Status : Running

Name : wuauserv
Status : Stopped

Name : WwanSvc
Status : Stopped

Name : XblAuthManager
Status : Running

Name : XblGameSave
Status : Stopped

Name : XboxGipSvc
Status : Running

Name : XboxNetApiSvc
Status : Stopped

PS C:\Users\istva>
```



```
PS C:\Users\istva> Get-Alias processz
```

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

```
PS C:\Users\istva>
```

# Windows PowerShell

283	12	2832	9012		7608	0	svchost
346	13	2988	13336		8392	0	svchost
128	9	1568	7532		8624	0	svchost
279	24	3352	13484		8888	0	svchost
200	14	2804	12028		8932	0	svchost
199	16	7188	11208		9812	0	svchost
1636	23	12376	32616		10328	0	svchost
326	40	2584	12168		10524	0	svchost
220	12	2896	13184	0,25	10544	8	svchost
151	11	2692	14784	0,03	10716	8	svchost
385	15	5020	12012		11572	0	svchost
207	11	2132	11080		11748	0	svchost
678	18	5216	20844		11752	0	svchost
139	9	3316	9888		12176	0	svchost
172	10	1912	8148		12456	0	svchost
349	17	4972	22592		14060	0	svchost
434	19	7760	19652		14556	0	svchost
278	36	2416	12792		14636	0	svchost
306	16	3484	15736		14728	0	svchost
346	20	6440	22148	2,11	14972	8	svchost
499	19	10368	33476	4,09	15220	8	svchost
256	14	3200	11720		15232	0	svchost
205	13	2556	12196		15720	0	svchost
110	8	1444	6720		16524	0	svchost
152	10	3884	12396		16852	0	svchost
133	10	1628	7604		18744	0	svchost
270	16	2924	10020		20072	0	svchost
136	9	1708	12052	0,02	20084	8	svchost
272	14	3540	23208	0,41	20352	8	svchost
417	18	4664	19132		21876	0	svchost
573	23	9016	37352	13,20	23236	8	svchost
6173	0	44	3256		4	0	System
1163	62	40544	50880	2,84	8660	8	SystemSettings
544	25	8192	34612	3,19	18904	8	SystemSettingsBroker
286	55	13992	24920	2,11	3456	8	taskhostw
117	8	1388	7840		8456	0	unsecapp
125	10	1940	10104	0,03	12268	8	User00BEBroker
192	11	2080	11244		13556	0	VBoxSDS
1058	19	7956	24280	0,53	5508	8	VBoxSVC
504	22	60956	104368	4,44	20960	8	VirtualBox
1657	176	169316	188352	72,08	2032	8	VirtualBoxVM
76	4	1996	5140	0,20	17892	8	VirtualBoxVM
69	4	1084	8488	0,16	22344	8	VirtualBoxVM
736	29	7848	38896	7,58	21920	8	Widgets
253	29	8728	24668	0,13	21292	8	Win32Bridge.Server
170	10	1652	6800		4628	0	WindscribeService
166	11	1472	6880		948	0	wininit
279	13	2644	14484		8108	8	winlogon
211	15	3584	11396		3872	0	WmiPrvSE
173	12	3072	11468		11440	0	WmiPrvSE
1006	54	31692	25832	3,75	9452	8	YourPhone
1221	67	77020	95436	22,45	21264	8	YourPhoneServer

PS C:\Users\istva>

```
Alias      r -> Invoke-History
Alias      rbp -> Remove-PSBreakpoint
Alias      rcjb -> Receive-Job
Alias      rcsn -> Receive-PSSession
Alias      rd -> Remove-Item
Alias      rdr -> Remove-PSDrive
Alias      ren -> Rename-Item
Alias      ri -> Remove-Item
Alias      rjb -> Remove-Job
Alias      rm -> Remove-Item
Alias      rmdir -> Remove-Item
Alias      rmo -> Remove-Module
Alias      rni -> Rename-Item
Alias      rnp -> Rename-ItemProperty
Alias      rp -> Remove-ItemProperty
Alias      rsn -> Remove-PSSession
Alias      rsnp -> Remove-PSSnapin
Alias      rujb -> Resume-Job
Alias      rv -> Remove-Variable
Alias      rvpa -> Resolve-Path
Alias      rwmi -> Remove-WmiObject
Alias      sajb -> Start-Job
Alias      sal -> Set-Alias
Alias      saps -> Start-Process
Alias      sasv -> Start-Service
Alias      sbp -> Set-PSBreakpoint
Alias      sc -> Set-Content
Alias      scb -> Set-Clipboard
Alias      select -> Select-Object
Alias      set -> Set-Variable
Alias      shcm -> Show-Command
Alias      si -> Set-Item
Alias      sl -> Set-Location
Alias      sleep -> Start-Sleep
Alias      sls -> Select-String
Alias      sort -> Sort-Object
Alias      sp -> Set-ItemProperty
Alias      spjb -> Stop-Job
Alias      spps -> Stop-Process
Alias      spsv -> Stop-Service
Alias      start -> Start-Process
Alias      stz -> Set-TimeZone
Alias      sujb -> Suspend-Job
Alias      sv -> Set-Variable
Alias      swmi -> Set-WmiInstance
Alias      tee -> Tee-Object
Alias      trcm -> Trace-Command
Alias      type -> Get-Content
Alias      wget -> Invoke-WebRequest
Alias      where -> Where-Object
Alias      wjb -> Wait-Job
Alias      write -> Write-Output
```

3.1.0.0 Microsoft.PowerShell.Management

3.1.0.0 Microsoft.PowerShell.Management

PS C:\Users\istva>

```
PS C:\Users\istva> Get-ChildItem
```

```
Directory: C:\Users\istva
```

Mode		LastWriteTime	Length	Name
----		-----	-----	----
d-----	2022. 01. 24.	16:21		.config
d-----	2022. 02. 11.	23:25		.dotnet
d-----	2022. 02. 11.	23:48		.templateengine
d-----	2022. 02. 28.	12:14		.VirtualBox
d-----	2022. 01. 24.	16:19		.vscode
d-r---	2021. 10. 01.	21:54		3D Objects
d-----	2021. 10. 09.	17:58		ansel
d-r---	2021. 12. 04.	22:04		Contacts
d-----	2022. 02. 11.	23:23		Documents
d-r---	2022. 02. 24.	19:10		Downloads
d-r---	2021. 12. 04.	22:04		Favorites
d-r---	2021. 12. 04.	22:04		Links
d-r---	2021. 12. 04.	22:04		Music
dar--l	2022. 02. 25.	21:14		OneDrive
d-r---	2021. 12. 04.	22:04		Saved Games
d-r---	2021. 12. 04.	22:04		Searches
d-----	2022. 02. 12.	0:35		source
d-r---	2022. 02. 25.	21:13		Videos
d-----	2022. 02. 13.	21:02		VirtualBox VMs
d-----	2022. 02. 21.	23:45		VN7XCW
-a----	2022. 02. 24.	19:04	557	.bash_history
-a----	2022. 02. 21.	23:10	179	.gitconfig
-a----	2022. 02. 21.	22:52	15	README.md

```
PS C:\Users\istva>
```

## Windows PowerShell

Stopped	vmicheartbeat	Hyper-V szívverési szolgáltatás
Stopped	vmickvpexchange	Hyper-V adatcsere-szolgáltatás
Stopped	vmicrdv	Hyper-V távoli asztali virtualizálá...
Stopped	vmictimesync	Hyper-V időszinkronizálási szolgál...
Stopped	vmicvmsession	Hyper-V PowerShell Direct szolgáltatás
Stopped	vmicvss	Hyper-V kötet árnyékmásolatának kér...
Stopped	vmicshutdown	Hyper-V vendégleállítási szolgáltatás
Stopped	VSS	Kötet árnyékmásolata
Stopped	VSSStandardColle...	Visual Studio Standard Collector Se...
Stopped	W32Time	Windows Time
Stopped	WaaSMedicSvc	Windows Update Medic szolgáltatás
Stopped	WalletService	WalletService
Stopped	WarpJITSvc	Warp JIT Service
Stopped	wbengine	Blokkszintű biztonsági mentés motor...
Stopped	WbioSrv	Windows biometrikus szolgáltatás
Running	WcmSvc	Windows Csatlakozáskezelő
Running	wcncsvc	Windows azonnali csatlakozás - konf...
Stopped	WdiServiceHost	Diagnosztikai gazdaszolgáltatás
Stopped	WdiSystemHost	Diagnosztikagazda
Running	WdNisSvc	A Microsoft Defender víruskereső há...
Running	WebClient	WebClient
Stopped	WecSvc	Windows Eseménygyűjtő
Stopped	WEPHOSTSVC	Windows titkosításszolgáltatói gazd...
Stopped	wercplsupport	Hibajelentések vezérlőpult támogatása
Stopped	WerSvc	Windows hibajelentési szolgáltatás
Stopped	WFDSCongMgrSvc	Wi-Fi Direct-szolgáltatások csatlak...
Stopped	WiaRpc	Állókép-beviteli események
Running	WinDefend	Microsoft Defender víruskereső szol...
Running	WindscribeService	WindscribeService
Running	WinHttpAutoProx...	WinHTTP automatikus webproxy-kereső...
Running	Winmgmt	Windows Management Instrumentation
Stopped	WinRM	Rendszerfelügyeleti webszolgáltatások
Stopped	wisvc	Windows Insider szolgáltatás
Running	WlanSvc	WLAN hálózat automatikus beállítása
Running	wlidsvc	Microsoft-fiók bejelentkezési segédje
Stopped	wlpassvc	Helyi profilkezelő szolgáltatás
Stopped	WManSvc	A Windows felügyeleti szolgáltatása
Stopped	wmiApSrv	WMI teljesítményadapter
Stopped	WMPNetworkSvc	A Windows Media Player hálózatmentes...
Stopped	workfoldersvc	Munkahelyi mappák
Stopped	WpcMonSvc	Szülői felügyelet
Stopped	WPDBusEnum	Hordozható eszközök számbavételi sz...
Running	WpnService	A Windows leküldéses értesítéseit k...
Running	WpnUserService_...	A Windows leküldéses értesítéseit k...
Running	wscsvc	Biztonsági központ
Running	WSearch	Windows Search
Stopped	wuauclt	Windows Update
Stopped	WwanSvc	WWAN automatikus konfigurálás
Running	XblAuthManager	Xbox Live engedélykezelő
Stopped	XblGameSave	Xbox Live játékmentés
Running	XboxGipSvc	Xbox Accessory Management Service
Stopped	XboxNetApiSvc	Xbox Live hálózati szolgáltatás

PS C:\Users\istva>

```
Windows PowerShell

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();

PS C:\Users\istva>
```

```
PS C:\Users\istva> $szoveg = "Miskolc"
PS C:\Users\istva> "$szoveg-on élek."
Miskolc-on élek.
PS C:\Users\istva> '$szoveg-on élek.'
$szoveg-on élek.
PS C:\Users\istva> $szoveg.Length
7
PS C:\Users\istva> $szoveg.ToUpper()
MISKOLC
PS C:\Users\istva> $szoveg.Replace()
```